HOOF PRINTS ON FOREST RANGES

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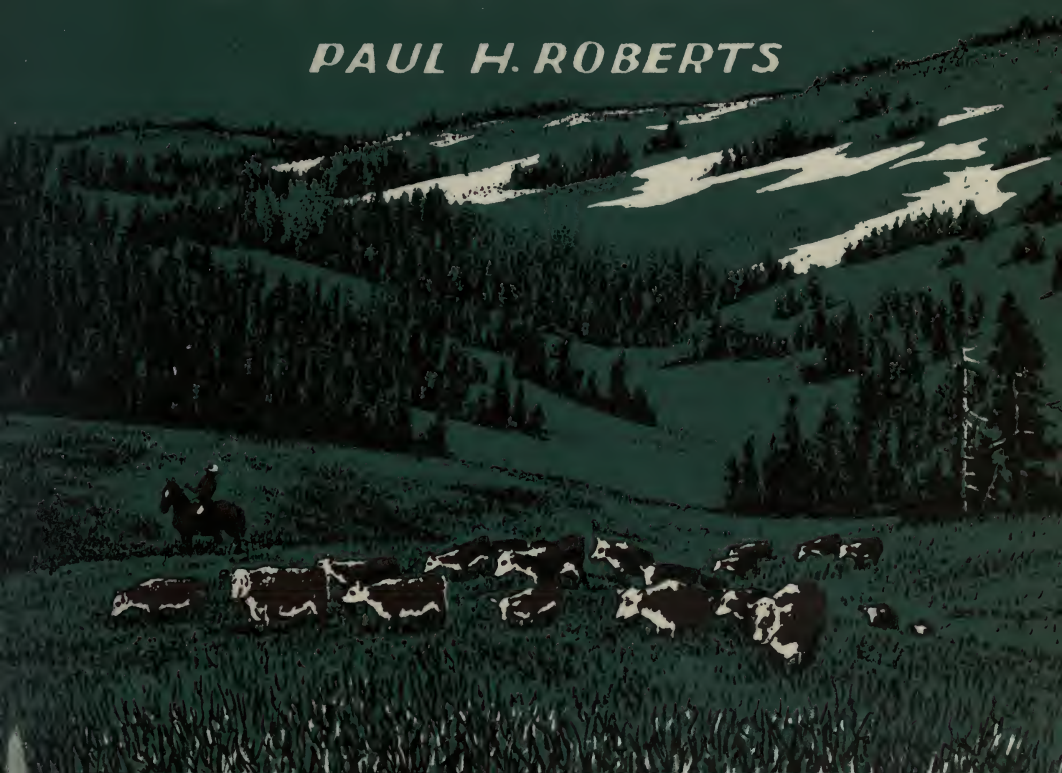

HOOF PRINTS ON FOREST RANGES

By PAUL H. ROBERTS

Adventure . . . . the growth of the American West and the United States Forest Service. Herein are recorded accounts of great round-ups of wild horses which roamed the forest reserves . . . . painstaking efforts to preserve the existence of the legendary and magnificent Texas Longhorn . . . . the years of blood, sweat and toil in which the United States Forest Service and the nation's ranchers worked together to conserve our vast ranges.

An intimately qualified eye-witness, Mr. Roberts has had thirty-seven years experience with the Forest Service. He actually lived this period, and he acquired personal contacts with many of the well-known personalities of the era.

Whether you are a connoisseur

(Continued on back flap)

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HOOF PRINTS ON FOREST RANGES

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The Early Years of National Forest Range Administration

by

PAUL H. ROBERTS

The Naylor Company
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. . . To my wife, Edith, who has shared
a long career in the Forest Service
with me.

FOREWORD

EARLY during each of the years shortly following the turn of the century, patrons of the old Albany Hotel of Denver, Colorado, as they lay in their beds, could hear an ominous rumble, almost a roar, of voices welling up from the glass dome which then covered a portion of the hotel lobby. To the initiated it meant that the cowmen of the West, in annual convention assembled, again were discussing the various proposals Gifford Pinchot had made to govern the grazing of domestic livestock on the public lands which had been, or were to be, withdrawn from the public domain as forest reserves. The conversations were tinged with salt and sulphur, and the rich idiom of the Old West poured out less often in prose than in blank verse.

Some of the speakers were men who themselves had helped to win the West, many more the sons of such men. Some were men of erudition and high statesmanship, owners or managers of large interests with established records of objective management, but there were many who themselves performed the arduous duties of round-up, calf branding, line-riding and bog-pulling, and who personally uncocked the broncos in their remudas, but made no pretense of diplomatic procedure. The chief concern of all was that the order to which they had shaped their lives faced drastic changes; so they were apprehensive — if not fearful. Uncle Sam had been cozened out of enough superlative timber to keep the saws whining for many years to come, and irrigationists regarded the withdrawal of their watersheds as advantageous rather than detrimental. But, at best, the supply of lush, well-watered, insect-free, cool summer ranges of the intermediate or higher elevations was not enough for all, and if part of it were

closed to livestock the industry would be just that much worse off.

The previous order of the western livestock industry had been more opportunistic and expedient than systematic. Losses often were heavy, prices often low, so why waste time maintaining precise and meticulous records in the conduct of what closely resembled a high-card gamble. Probably no other single factor did more to revolutionize the business procedures of the western livestock growers than did the requirements prescribed by the Forest Service for the establishment of permanent grazing preferences on national forest lands.

Thus, when the Forest Service came into being February 1, 1905, one of the greatest and most complex problems facing it was the evolution and establishment of an equitable and orderly system for the utilization of the forage resources of the national forest lands through methods not incompatible with the major objectives of public interest the national forests were destined to serve. Strangely enough, little or nothing hitherto has been published about that problem or the measures developed to solve it, although no other phase of the national forest program has been more colorful or absorbing.

Perhaps the deficiency in some part could be charged against me as a personal dereliction, since I was from the beginning somewhat closely associated with the range management activities of the Forest Service. A latent sense of guilt may explain the enthusiasm with which I received the news that Paul H. Roberts contemplated preparation of a résumé of the early grazing history of the Forest Service.

I can think of nobody else better qualified to do so. His major undergraduate study at the University of Nebraska was range management. His civil service status in the Forest Service was established through passage of the grazing assistant examination. His initial field assignment, over forty years ago, was to the part of the Southwest in which the range livestock industry had incubated and attained its fullest flower, as well as its most colorful and romantic aspects. There he was thrown into close association with many men outstanding in the industry and with many of the pioneer members of the Forest Service who had most to do with the structure of range management which during more than a half-century has been operative within the

national forests. He has lived and loved what he has set forth in this book.

May 1, 1961. L. F. Kneipp

ACKNOWLEDGMENTS

TO EVERYONE who has contributed to this story I am deeply grateful. Statements based upon or borrowed from published material are documented, except for some range history which is common knowledge to those who have spent years in the West and has been published many times and in many places. However, I have relied mostly on situations and incidents hidden in the memories of survivors of early Forest Service times, in the musty files of days long gone, and my own experiences. Source material derived from, and with the aid of, colleagues and friends of mine — many of whom have expressed similar views — is specially identified by footnote or in the text where I feel it would strengthen authenticity.

Leon F. Kneipp, Washington, D. C., has been especially helpful in the description and interpretation of events in relation to the national forests, the range, and the conservation movement around the turn of the century and the following two decades. He worked at the right hand of Albert F. Potter for many years and with Gifford Pinchot and his associates. The story would not have been possible without his assistance. Kneipp, Jesse W. Nelson,* and Angus M. Woodbury, Salt Lake City, Utah, either verbally, by letter, or old records, have been particularly helpful in describing situations and conditions on the national forests in connection with early range administration.

I am indebted to Harry B. Embach, secretary of the Arizona Wool Growers Association, Phoenix, Arizona, — a friend of long standing and association — for lending me the minutes of that association for the period 1897 to 1923, other valuable source material and helpful discussion, and to Curtis H. Cutter, grandnephew of Albert F. Potter, for lending me Potter's Scrap Book.

Kneipp, Nelson and Embach read all or portions of the manuscript in various stages of preparation and made many helpful suggestions and comments. I deeply appreciate permission from J. Frank Dobie to use a quotation from *The Longhorns,* and from the ill-fated Walter Prescott Webb* to use any material I needed from his publications.

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I am indebted to the following who gave me the courtesy of using their personal photographs: Mrs. James T. Jardine, Dr. Arthur W. Sampson, C. E. "Chris" Rachford, Leon F. Kneipp, Jesse W. Nelson, F. Lee Kirby and J. H. Sizer. Also credit goes to the Arizona Pioneer's Historical Society and the U. S. Forest Service.

And, not in the least, am I indebted to Mrs. Mildred C. Stamper and my wife, Edith, for many laborious hours of copying the manuscript.

I wish to gratefully acknowledge the valuable assistance of my advisor and agent, Phyllis Heald.

The sequence of developments in range management on the national forests used in this history is based upon a chronology prepared by the late John H. Hatton, one of the "old-timers" in "Grazing."

The Author

*Deceased.

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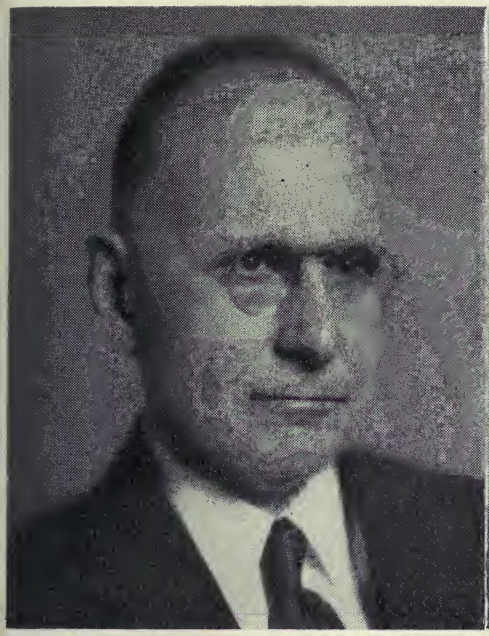
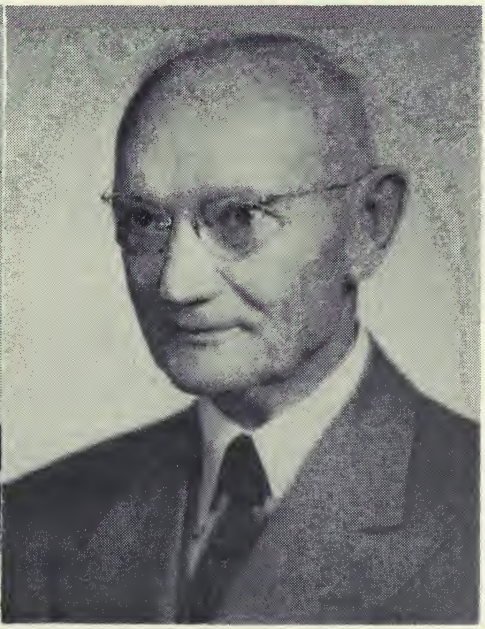
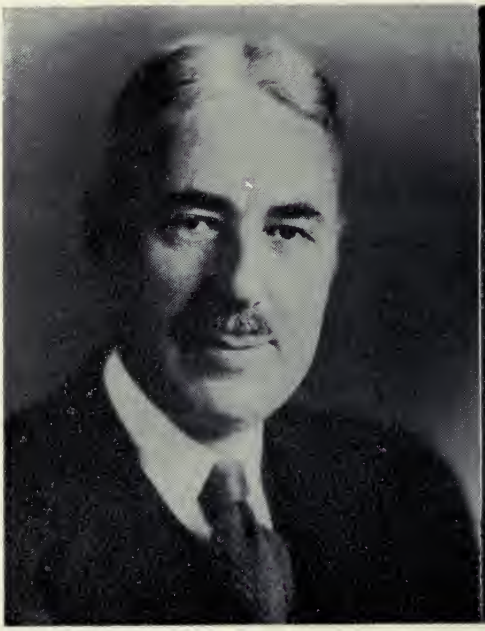


Top Left: William Ridgely Chapline, Chief of Forest Service Range Research 1920-1956. *Courtesy* "U.S. Forest Service." Top Right: James T. Jardine, head of the Office of Grazing Studies 1910-1920.

Bottom Left: C. E. "Chris" Rachford, Chief of the Branch of Grazing 1928-1934. Bottom Right: Dr. Arthur W. Sampson, pioneer in Forest Service Range Research.





Top Left: Leon F. Kneipp, Chief of the Branch of Grazing, Washington D.C. 1910-1915. Top Right: Will C. Barnes, Chief of the Branch of Grazing Forest Service 1915-1928. *Courtesy* Arizona Pioneer's Historical Society.

Bottom Left: Jesse W. Nelson — 1915. Bottom Right: Albert F. Potter, First Chief of Grazing of the Forest Service.

Top: Sheep on trail near Wise River, Beaverhead National Forest, Montana. *Courtesy* "U.S. Forest Service."

Bottom: Cattle grazing in Bruce Meadow near Idaho Sawtooth Mountains in Boise National Forest. *Courtesy* "U.S. Forest Service."

TOP: Theodore Roosevelt at dedication of Roosevelt Reservoir 1911.

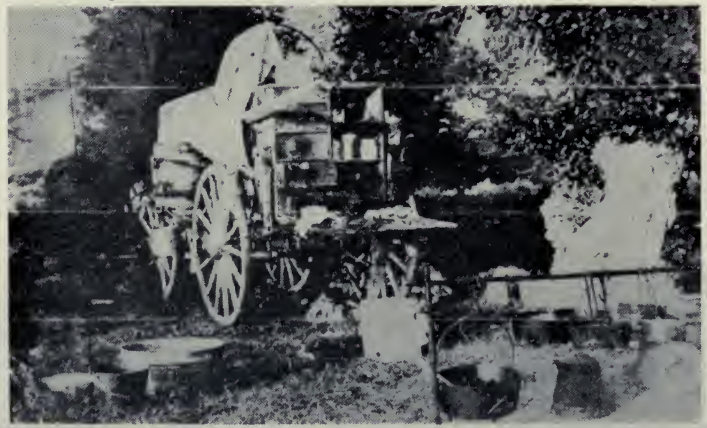
BOTTOM: Sitting left to right Frank R. Stewart — First Forest Supervisor Prescott Forest Reserve; J. B. Hanna — First District superintendent of Forest Reserves in Arizona and New Mexico; Leon F. Kneipp — One of the first Rangers, Prescott Forest Reserve.

Top: Cattle trailing into allotment Gravelly Mountains, Beaverhead National Forest, Montana. *Courtesy* "U.S. Forest Service."

Bottom: Sheep — Payette National Forest. *Courtesy* "U.S. Forest Service."

Top Left: J. H. Sizer, member of Two Bar Outfit in 1902. Top Right: John Kerr, left, Forest Supervisor and Arthur C. Ringland, beside Federal Building, Captain, New Mexico 1905. *Courtesy* "U.S. Forest Service."

Bottom Left: Two Bars wagon on Elk Head Creek in 1906. Bottom Right: Two Bars Outfit southwest of Baggs, Wyoming in 1906.



Cattle on allotment on head of Porcupine Creek on Deerlodge National Forest. *Courtesy* "U.S. Forest Service."

Sheep and herder in Montana, probably on the Gravelly Range, Beaverhead National Forest. *Courtesy* "U.S. Forest Service."

1

ORIGIN OF RANGE CONTROL

GOVERNMENTAL action to conserve the forage resources on the expanses of the western public domain range lands was an outgrowth of, and an essential concomitant for, conservation of the nation's forests and the establishment of a national forest system. Foresters had European experience as background for initial American forestry, but there was no background whatever for development of a system of controlled grazing use of the range. The circumstances were paradoxical, as we shall see. A short resume of conditions and early action toward forest conservation will afford helpful background for events recorded on the following pages.

This nation, upon its birth and with subsequent westward expansion, became the custodian of an abundance of natural resources. But realization of the necessity for conservation of this great reservoir of abundance evolved slowly. True, restrictions were placed upon the use of some forest products in some localities, even in colonial times. The Federal Government and various States took action, sporadically over the years, for forest protection. But forest exploitation, exploding during the last quarter of the

last century, impelled action. Then a few farsighted men sensed the fallacy in the "legend of inexhaustibility" and began a movement to conserve the nation's forests. The times were auspicious.

The forests were being ravaged to feed the demands of the rapidly expanding industrial revolution. The prairies and plains were "settling up" rapidly — and building with wood. By the turn of the century, the saws had cut largely through the East and were whining through the forests of the South and the Lake states. The annual timber cut reached an all time high of around 45 billion board feet shortly after 1900. Behind the saws, unrestrained wildfire was burning the slash and ruining the forest soils for decades to come. Public spirited organizations and individuals were horrified by the apparent wholesale destruction and waste — and a few acted.

The American Association for the Advancement of Science at its annual meeting in 1873 appointed a committee "to memorialize Congress and the several state legislatures upon the importance of promoting the cultivation of timber and the preservation of forests and to recommend proper legislation for securing these objects." The American Forestry Association was organized Sept. 10, 1875 for public promotion of forestry and timber culture.

Carl Schurz, an emigrant from Germany, a general in the Civil War, a United States Senator and Secretary of the Interior (1877 to 1881), was an early advocate in thought and action for conservation of natural resources. German foresters Fernow, Filibert Roth, Schenk, Von Schrenk and others coming to the United States gave impetus to forest conservation. They knew the problems of a nation deficient in timber supply.

A growing corps of American foresters during the 1890's was inspired and dominated by idealism. Among these were Gifford Pinchot and Henry Solon Graves. They saw with appalling realism the probable consequences of prevailing forest destruction. Their activity in creating widespread public concern and inspiring constructive public policy was of inestimable value. So, out of a melee of exploitation and empire building, conservation of natural resources was born.

By the time apprehension as to the future of the nation's forest lands began to command serious attention, in the 1870's,

the greater part of the forest lands east of the Mississippi River had been vested in state or private ownership, so, that while the need for a comprehensive national program of forest conservation was most widely recognized and advocated in the East, the circumstances requisite thereto were not favorable. Vital questions of constitutional authority, withdrawal of the lands from state and local taxation, large expenditures of Federal funds to acquire and manage new forests, and other problems would require several future decades for their solution by Congressional action and judicial processes.

West of the Mississippi River, however, the major part of the forest lands were still in Federal ownership and full control over their status and use was vested in the Congress. A primary step in forest conservation then was to withdraw such lands from appropriation under the Federal land laws and establish them as forest reserves. Congress, in the Act of March 3, 1891, provided for the creation of "Forest Reserves" by withdrawal from the unappropriated public domain. Administration of the reserves was under the General Land Office in the Department of Interior. Some 40 million acres were set aside from 1891 to 1900, and around 20 million additional from 1900 to 1904. But action lagged until President Theodore Roosevelt gave his dynamic support to the struggling movement.

The culmination of conservation thought and action in those times was creation of the Forest Service, February 1, 1905, in the Department of Agriculture.[1] In the words of Leon F. Kneipp, it was "the result of brave young dreams" and "those were the product of a combination of certain unique personalities, physical trends and new attitudes of American thought." The abundance of the Frontier was waning.[2] A new Era was dawning.[3]

And it could well be that this young organization, the Forest Service, in its individual makeup was as peculiar an organization as ever adventured into such a vast, far-flung and important undertaking in the public welfare as the administration of the national forests. There were only 115 foresters with degrees from American colleges in 1905. Most of these were employed by the Forest Service. Additional personnel was recruited from many walks of life.

Members of the General Land Office, who had been connected

with the administration of the forest reserves, transferred to the Forest Service. Some were enthused by the vigor and zeal of the new organization, captured a new vision of service, and not a few advanced to high position. Others, unable to respond to new ideals, responsibilities and disciplines, quit or were fired. Many of the recruits and some of the old employees were ex-cowboys, stockmen, lumberjacks, timber cruisers or miners — frequently lacking in formal education but rich in the lore of the West — a general sprinkling of engineers, artists, pharmacists, health seekers, ministers and outright adventurers. A few had first hand experience with resource waste and deterioration and saw the need for calling a halt — it could be with equal clarity and greater pragmatism than many professional foresters.

Again in the words of Leon F. Kneipp, who was one of them and of whom we will hear more later: "Their attitude was the natural result of the atmosphere and environment in which they lived. Beyond great valleys stretched range after range of blue mysterious mountains, threaded only by trails, with here and there a ranch or cabin or little mining camp. There were few roads, few telephones, few intrusions of the outside world. To cover their far-flung districts the 'Old Timers' jogged along on their horses 15, 20 or 30 miles a day, trailing their pack horses or sharing the proverbial hospitality of ranches, cow camps, prospector's cabins, logging camps or wayside stage stations. They lived in a world in which the old charm, romance and traditions of the West were still a living, motivating influence that added much to the zest of life; that made the growing mechanization and efficiency of modern progress seem strange and unreal."

They were attracted to the Forest Service by the lure of a need and a new and worthwhile adventure. Although scattered far and wide over the western forests, woodlands and range lands, they were bound by a common spirit and were welded into a cohesive and effective unit through the magic of Pinchot's leadership,[4] imbued with a common purpose and instilled with a continuing idealism of public service. Biographical sketches of some of the men who blazed the trails are included as this story progresses, not alone for the personal historical record, but for an understanding of the singular organization of which they were a

part[5] — the Forest Service. For one thing, the average age of the personnel was under thirty years.

The process of carving the forest reserves from the western public domain lands created a paradoxical situation of major proportions. While the ultimate value of the lands for timber production was indisputable, their then economic use, in major part, was for grazing by domestic livestock. If such use could be harmonized with forest conservation, a widespread national program was feasible; otherwise it was doomed to defeat.

The West was in the grip of seething competition for the range, sanguine range wars, overgrazing and deterioration of the range lands. Abatement of the maelstrom and the development of a program of controlled grazing which would conciliate grazing use and forestry became of foremost importance in establishment of the national forest system — and one of the most urgent and vital problems of the untested Forest Service.

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1 The Forest Service was created by Act of Congress, February 1, 1905, transferring the administration of the forest reserves from the Department of Interior to the Department of Agriculture. In the then pending appropriation bill for 1906 the name "Bureau of Forestry" was changed to "Forest Service"; and in 1907 "forest reserves" was by Act of Congress changed to "national forests."

2 "Abundance" was a distinguishing characteristic of the frontier. Walter Prescott Webb, *The Great Frontier,* Houghton-Mifflin Co., 1951, pp. 18-21, 66-68 and elsewhere.

3 *Ibid.* A footnote, p. 4, states: "The year 1890 is generally given as the date marking the close of the frontier. Actually the closing was gradual, covering the period from 1880-1910."

4 Pinchot gave great credit for *esprit de corps* to others — notably, Overton W. Price.

5 Space will not permit biographical sketches for many others who are equally deserving of such recognition.

II

MAELSTROM ON THE RANGE

THE Forest Service was born during the years of most savage competition for grass on the western frontier. The time of vast reaches of public grasslands with abundant forage for all with the intrepidity to move into them was past. A grim and basic struggle was in progress between three major competitive forces — the big sheep and cattle outfits and homesteaders. The prevailing strife, always intense, at times flared into violent and vicious conflicts. An occupation, older than Abraham and Lot, was going through the travails of new birth in a new environment.

Albert F. Potter, whose experiences in the livestock business traversed the period of which he wrote, says, "In the absence of lawful regulation it was quite natural that the period from 1880 to 1900 should become one of spoilation. The pioneer stockgrower, eager to reap the fruits of his early efforts, increased his herds to the full limit of his ranges. Quick profits and swollen fortunes naturally lead to speculation and companies were organized to place incredible numbers of stock upon the range. As means of transportation multiplied settlers came in increasing

numbers to appropriate the choicest lands and compete with the prior occupants in the use of the unappropriated lands. As a result, the use of the range degenerated into a struggle in which only the fittest survived, and the permanent good of the industry was sacrificed to individual greed. Natural laws and rules of justice were blindly disregarded. The grazing lands were stocked far beyond their capacity; vegetation was cropped by hungry animals before it had opportunity to reproduce; valuable forage plants gave way to worthless weeds and the productive capacity of the lands rapidly diminished. Class was arrayed against class — the cowman against the sheepman, the big owner against the little one — and might ruled more often than right. Deadlines stretched their threatening lengths across the country, jealously guarded by armed men; battles were fought and lives sacrificed; untold thoussands of animals were slaughtered in the fight for the range. Probably no class of men deplored this state of affairs more deeply than did the stockmen themselves, but they were victims of circumstance and governmental inaction with no course open to them other than the one they followed."[1]

The national forest system, came into being at the height of the range-land melee, and the men who operated it played an important role in bringing order out of virtual grazing chaos. For the initiation of an orderly system of range use on the forest reserves was the foremost undertaking faced by the new organization. A back-drop, however, of the genesis and growth of the western livestock industry to about 1910 is necessary to envisage the task — and for this purpose, in three general regions with dissimilar range history, the Central and Northern Rocky Mountains and the Great Basin; the Southwest of Arizona and New Mexico; and the Coastal States, principally California and Oregon.

The Central and Northern Rockies and the Great Basin — except for the few herds around mining camps, "forts" along the emigrant trails, and Mormon settlements — were virgin territory for domestic livestock when Texas cattle erupted onto the Great Plains, north beyond the Canadian border, and then fanned westward into the mountains and onto the plateaus. Ten million and more[2] gaunt Longhorns — "in great herds, guided on point and flanks and drag by hard riders and hard fighters" — snaked northward from the latter sixties to about 1890. Tremendous ranches

were established. It was the time of the cattle barons. But the tenure by cattle would not for long go undisputed.

While the north was new grazing country, the Southwest was old. What is now New Mexico has been grazed continuously by sheep since Oñate, the Spanish colonizer, brought them in 1598 to the Pueblos along the Rio Grande.[3] Some of the largest flocks of record have grazed New Mexico ranges. The Spanish Governor, Baca, in 1800, had nearly two million head; Chavez, the first Governor under the Mexican republic owned a million.[4] Many others of the rich owned flocks of 50,000 to 125,000. In the modern period Louis and Henry Huning, in 1880, ran 60,000 to 70,000 sheep; Solomon and Tranquilina Luna, over 150,000.[5] The Otero and Perea families together, around 1890, were credited with over 500,000 sheep;[6] and there were many more large Mexican and Spanish-American ownerships.

But in New Mexico, millions of acres of grazing lands along the Rio Grande River and its tributaries, and in the northeastern portion, were contained in privately owned Spanish or Mexican land grants. These provided the headquarters and all or a part of the range land for many sheep outfits, and strongly influenced the pattern of the grazing industry. New Mexico, the oldest sheep region in the United States, furnished much of the sheep for founding the sheep industry of the western states and territories.

Cattle raising was of minor importance in New Mexico until after the Civil War, although Lucien Maxwell, in 1864, grazed 10,000 cattle as well as 50,000 sheep on the Maxwell Grant in the northeastern part of the Territory.[7] Charles Goodnight and Oliver Loving, in 1866, made their famous dry drive from the South Concho in Texas to Horse Head Crossing on the Pecos River, then up the Pecos to Fort Sumner. They were soon followed by John Chisum and other large Texas outfits. The main influx of Texas cattle was into the central and southern portions of the Territory. Thus the livestock industry was well established before the first Forest Reserves were created.

Grazing by domestic livestock is also old in Arizona. Padre Eusebio Kino, "The Padre on Horseback," around 1700, stocked his Missions in what is now southern Arizona with both sheep and cattle.[8] But warring and predatory Indians put an end to the

Spanish-Mexican industry, and prevented its establishment by Americans until the early seventies.[9] In 1870, according to the census, there were only 5132 head of cattle in Arizona.[10] But during the seventies and eighties the industry grew rapidly.

Large numbers of cattle were brought in from Texas, California, Oregon and Utah. One outfit of note on the Colorado Plateau in northern Arizona was the Aztec Land and Cattle Company. This concern which owned thousands of acres of Atlantic-Pacific Railroad grant lands, in the spring of 1885[11] unloaded 28,000 head of cattle at Holbrook — and at its height probably grazed more than twice this number. Another was the A 1, with headquarters near Flagstaff, said to own some 60,000 cattle. Cattle of both outfits grazed forest lands later to be included in national forests. There were many more large outfits. Albert F. Potter and Will C. Barnes, who became prominent in Forest Service range administration, ran cattle in Apache County in the late eighties and early nineties.

The modern sheep industry started in the 1870's when drought in California forced a surge of sheep eastward across the Colorado River onto the high, timbered plateaus of northern Arizona. Daggs Brothers and John Clark were two of the flockmasters. William Ashurst, father of Henry Ashurst, one of Arizona's first Senators, brought sheep in from Nevada. Also, the Mormons brought sheep and cattle from Utah to their settlements on the Colorado Plateau. Juan Candelaria's sheep outfit, the oldest continuous sheep operation in the United States, was established at St. Johns[12] and the Huning's were summer grazers of large flocks in the White Mountains.

Men coming with railroad construction in the early 1880's sensed opportunity and went into the sheep business. Spanish and Mexican land grants were of minor influence in shaping the pattern of the livestock industry.

The first domestic livestock were brought to California by the Franciscan Padres to stock the Mission chain being established along the Coast.[13] After secularization of the Missions, largely from 1834-1836, came the romantic period of California cattle ranching — the days of the Dons. Then cattle raising became the means to a gracious pastoral living rather than an aggressive livestock industry. These operations were conducted largely on, or

from, Spanish and Mexican land grants which plastered the Central Valley, and the Coastal region from the trans-delta country to the Mexican border. When gold was discovered in 1848 by James Marshall, numbers of sheep and cattle were insufficient to supply meat for the inswarming 49ers and those who followed them. Severe drought and heavy livestock losses aggravated the deficiency.

The shortage was met by drives of sheep from the Territories of New Mexico and Oregon, and from Missouri, Ohio and other eastern States. New Mexico alone furnished around 550,000.[14] Three old "mountain men" made drives from New Mexico. "Uncle Dick" Wooton with about 9000 sheep, and Lucien Maxwell and Kit Carson together with over 13,000.[15] Thousands of Texas cattle crossed southern New Mexico and Arizona. Thousands more of both sheep and cattle went by more northern routes. Sheep populations in California, Oregon and New Mexico mushroomed following the Civil War and crowded the range land. The sheepless ranges of the Central and Northern Rockies and the High Plains were inviting. And in the seventies an eastward and northern movement began. In the 1880's and 1890's it became a deluge.

The volume of this sheep explosion can be envisaged partially by comparison of a few sheep population figures for the western range States and Territories prior to and including 1891 and 1900.

Montana in 1881 assessed 260,400 sheep,[16] in 1891, 2,827,700; Wyoming in 1884 was reported to have a few sheep and 2,000,000 cattle, but in 1891 had 1,000,000 sheep; Colorado in 1891 had 1,819,600 sheep; Utah in 1892, 2,800,000; New Mexico 4,000,000; California in 1891, 2,602,200, but in 1876 California had 6,406,000 and in 1887, 3,281,000. Drought and exportations account for much of the decrease. Oregon in 1885 had 1,694,000, but by 1891 drives to the east reduced the number to 1,159,800.

But by 1900, Montana had more than 6,000,000 sheep; Wyoming more than 5,000,000; New Mexico, which for years had supplied sheep to California, Colorado and Texas, had more than 4,000,000; Utah, Idaho, and Oregon more than 3,000,000 each; and California and Colorado over 2,000,000 each. Wentworth states, "Reliable statistics of sheep that crossed the east bound trails are non-existent," but also says "a minimum estimate of fifteen

million head driven east in the more than three-decade trail era is a conservative, rather than a fantastic figure."[17] But another and more relentless migration was penetrating the range lands.

Homesteaders, often called "nesters," following the Custer Massacre and the rounding up of the Sioux and other tribes, began searching out the arable lands along the tributaries and fingering headwaters of the great river systems on both sides of the Continental Divide. And they were starting small herds of cattle. They threatened the tenure of the big outfits. The driving desire for land and a home on the range was insatiable.

And so the scene was staged in the crucial competition for grass. The range wars were the most violent outgrowth of the strife. Their occurrence and ferocity varied by the different regions. Overgrazing and range deterioration were the more harmful and lasting consequences. And the competitive maelstrom on the range "triggered" during the nineties a vigorous effort by the livestock interests to place the public domain under administration.

The most savage, sanguine and brutal range wars occurred in the Central Rockies and the Great Basin, and centered in Wyoming.[18] Cattle outfits, many of great size were sedentary. Headquarters were usually on private lands — obtained by purchase of railroad grant lands, by homesteading, and by purchase of Federal land script. The public domain provided most of the range. Use was obtained by first occupancy, recognized by other cattlemen. But it was held against new comers largely by control of "key" watering places. These were in part obtained by the same procedures as the headquarters. Their importance is shown by the value of Valentine script, for example, which finally sold for as much as $40.00 to $50.00 per acre — a high figure for those times. But many waters within the ranges of individual outfits were unowned and were held by way of strategic location and by force. A vigilant and restless sort of order prevailed.

Millions of sheep invaded the ranges in this region roughly ten years after occupancy by cattle. Sheep outfits were nomadic. Many large "tramp" outfits, had no headquarters other than a camp wagon or pack outfit. They controlled no ranges recognized by cattlemen or others woolgrowers. Even those who had a home base usually trailed great distances between summer and winter range. Sheep swept over the cattle ranges. Cattlemen established

deadlines and warned the flock owners not to cross them. But they did cross — and with the crossing came hell on the range.

Sheep camps were attacked by cowboys; herders and owners sometimes shot and wounded or killed. Sheep were clubbed to death, shot, dynamited when in close flocks, and whole flocks driven over precipices. Sometimes they were burned in prairie fires, or driven into quicksand. Camp wagons and provisions were burned, and horses and sheep dogs killed.[19]

The strife was intense also in northwestern Colorado. Cattle raisers organized a Cattlemen's Protective Association, drafted an oath, of which only one transcript was made, and swore to it before a secretary. John Lowell, who afterwards became a forest supervisor, was secretary of the Association. For certain understandable reasons he never revealed either the contents of the oath or the name of anyone who swore to it.[20] The sheep-cattle wars extended from the mid-1880's to the early teens.

The nesters, mostly coming from the Central and Prairie States, attacked the heart of the range lands. First they "took up" the arable, productive bottoms along stream courses, and in the draws, and next the flats. In so doing they captured the best grass lands and many of the best watering places of the large outfits. And conditions over which they had no control forced them into cattle raising.

They were the victims of a land disposal system carried over from the humid Midwest. The 160 acres allowed under the Homestead Act of 1862 were inadequate for a livelihood — even a hard-scrabble livelihood — on the arid High Plains, and the foothills and plateaus of the West.[21] Tillage methods brought from the humid areas were unsuited to this environment. High altitudes, short growing seasons and low rainfall largely limited crops to wild hay and grains, markets for which were non-existent except in the form of meat on the hoof. So the settlers fenced their home and crop lands to protect them from range livestock, and started small herds, aggregating thousands of cattle. These grazed on the surrounding public lands.

It was homesteaders settling upon the ranges of Ora Haley's Two Bar, the Two Circle Bar, the Sevens, and other outfits in northwestern Colorado that put them out of business as big concerns. But increase in the price of Texas steers, from $10.00 to

$12.00 per head to around $18.00 to $20.00 about 1908, was a strong contributing factor.[22]

And it was homesteading in Wyoming that "triggered" the Johnson County War culminating in 1892 — the most famous (or infamous) cattle baron-nester war. The U. S. Army became involved and reverberations of the conflict, which cost many lives, extended for decades and allegedly penetrated to the Halls of Congress and the White House.[23] After the Forest Homestead Act was passed in 1906 and agricultural lands within the National Forests were opened to settlement, thousands of settlers took up homesteads. They swelled the number of those coming before the creation of the Forests. Forest Service grazing policies would give special consideration to homesteaders on and near the National Forests.

But range strife was not limited to conflicts between sheep and cattle outfits and homesteaders. Sometimes sheepmen clashed with sheepmen. Some large sheep operators kept bands of wethers or broken-mouthed ewes on the rang purely for fighting purposes. If an outside flock of ewes and lambs intruded on the range the fighting band was maneuvered so they could be rushed into it. So instead of possibly 1500 ewes and 1200 lambs, there would be, for example, 3500 ewes, wethers and "gummers" and 1200 lambs. Then they would have to be separated, often by man-handling over the sides of a hastily constructed brush corral. In the whole process possibly 300 to 400 lambs became confused, couldn't find their mothers, or were disowned by them, and became "bums." This could cause havoc to an owner who had hoped to entrench himself and build up his flock by keeping his ewe lambs and getting through the season with returns from wether lambs and old ewes.

Sheep stealing was common. Article V of the first Articles of Incorporation of record, for the old Arizona Sheep Breeders and Woolgrowers Association, written in 1897, states, "It is the special object of this Association to put an end to the wholesale stealing of sheep, by offering rewards and otherwise and each member of this Association pledges himself to do all in his power to put a stop to all unlawful acts upon the range affecting the interests of individuals of this Association . . ." Minutes of meetings over a period of years contain numerous references to measures adopted by the Association to prevent sheep stealing.

And cattlemen fought with rustlers and other cow outfits. Rustlers preyed on the herds of large cattle outfits, either for the purpose of selling the stolen cattle, or to build up herds of their own. Sometimes rustling was interwoven with the strife between the big outfits and the homesteaders. Not infrequently it threatened the solvency of the big concerns. The Lincoln County War in New Mexico, in which Billy the Kid gained lasting notoriety, originated in heavy losses from rustling, the two sides in the imbroglio being represented by John Chisum and the small cattle owners in the Pecos Valley.

Sanguinary conflicts were not so common in regions where livestock use was old although there were some sharp clashes and violence. But the strife for grass had no regional limitations. And abuse of the range became prevalent.

Natural conditions contributed to the abuse of the grass lands, which in the older grazing territories of New Mexico and California goes back for a hundred years or more. The vastnesses of the western range, except in the high mountains and parts of the Northwest, are arid and semi-arid. Droughts, at times of exceptional severity, occur frequently. The natural balance between grass and rainfall is delicate and easily upset. Living waters over great areas are few and far apart, and the country around these waters had to "pack" a heavy load of livestock in the early days. But the human element was also important.

A considerable number of the early operators were new to the livestock business. Even those experienced in handling sheep and cattle knew little or nothing about the grazing capacity of the western range. Futhermore there was no fund of technical knowledge of forage management they could fall back upon. Also, overgrazing in its early stages is a hidden and creeping malady, not readily recognized — but where the range is "beaten out" the destruction is apparent. The individual animal was cheap and received little consideration. Animal husbandry of the time was toward improvement of herd strains. The herd, or flock, was the entity, and where the values lay — the bigger the herd, the greater values. The great incentive was quick and maximum financial gains. Range exploitation, as of the times and conditions, was as inevitable as frontier ravaging of timber and other natural resources.

We turn gain to first-hand description by Albert F. Potter.

> At the beginning the mountains and heavily timbered areas were used but little, but as the situation grew more acute in the more accessible regions the use of these areas became general and in course of time conditions within them were even more grave than elsewhere, for experience had demonstrated that they were the choicest ranges and they were in strong demand. The mountains were denuded of their vegetative cover, forest reproduction was damaged or destroyed, the slopes were seamed with deep erosion gullies, and the water-conserving power of the drainage basins became seriously impaired. Flocks passed each other on the trails, one rushing in to secure what the other had just abandoned as worthless, feed was deliberately wasted to prevent its utilization by others, the ranges were occupied before the snow had left them. Transient sheepmen roamed the country robbing the resident stockmen of forage that was justly theirs.[24]

Sheep were mostly blamed for range abuse in those times. When grazed and driven in tight flocks, they ate the grass closely and trampled it with their hooves. But cattle overgrazed the range also; and, when sheep swarmed onto overgrazed cattle ranges, damage was compounded. Sheep poured into favored lambing grounds and mountain meadows. Band followed band; outfits criss-crossed each other's trails. They crossed and recrossed state lines.

Three hundred thousand or more[25] sheep made the "Big Circle" in California. After lambing in October and early November in the southern San Joaquin Valley, they trailed east through Tehachapi Pass and fanned out over the Mojave Desert, then moved north, east of the Sierra, and up Owens Valley, reaching the mountains along the California-Nevada line in May and early June. There they summered on both sides of the line. In the fall, ahead of winter snows, they crossed the Sierra south of Lake Tahoe, grazed southwest to the Sacramento Valley, and back to the upper San Joaquin. Other thousands went on into Nevada, wintered there, then on into Oregon and back to California — taking two years for the complete swing. Millions wintered in the southern deserts and summered in the Coast Range and High Sierra.

Most of Arizona's sheep summered on the Colorado Plateau, in the White Mountains and in the Bradshaws. They wintered

on the deserts in Salt River and Gila Valleys. For many years each owner took any route he wished in coming and going. But in the 90's in order to compose difficulties with the cattlemen whose ranges they crossed, definite trails were established. Hundreds of thousands of sheep, taking from four to six months or more on the round trip, travelled the Heber-Reno, Mud Tanks, Beaverhead, Grief Hill, and other trails. Some Arizona stockmen by 1891 expressed grave fears that, if stocking continued to increase, the range would become overgrazed.[26]

Sheep summering in the mountains of northern Utah trailed as much as 200 miles to the deserts of southern Utah and Nevada and back again. Others wintering in southern Utah went to the mountains of western Colorado for summer grazing and clashed with the Colorado cattle outfits.

Thousands of Wyoming sheep wintered on the Red Desert and summered in the mountains of western Wyoming. Other outfits, when they could escape the deadlines, summered along the Continental Divide in northwestern Colorado; but this was not recognized as sheep range until 1910. That year the Forest Service began issuing permits for sheep along the high crest of the Divide — seldom penetrated by cattle.

Oregon sheep trailed from the mild intermountain winter country to the Cascades, the Blue and other mountains for summer. Thousands trailed to northern Idaho. By 1891, overstocking was steadily decreasing grazing capacity and some citizens were convinced sheep were devastating the grazing lands to the detriment of the home builders.[27]

Drought coupled with overstocking pulverized the ranges and brought sudden drastic losses of livestock. John Sparks and John Tinnin in Idaho, who owned the Winecup and H. D. brands, bought the Shoe Sole outfit in 1882 which brought their holdings to probably more than 175,000 cattle. In 1885 the concern branded 38,000 calves. Then during the years from 1886 to 1891 the country suffered from severe drought. Springs and creeks dried up and vegetation was seared to the ground. Snow in the mountains fell on frozen ground and was melted by chinook winds, leaving no moisture in the ground. In 1891 only 60 calves were branded on the same range where six years before there had been 38,000.[28]

Jerry Sullivan, one of the owners of the Double-O outfit near Seligman, and George Hance, who had a small outfit west of Camp Verde — both old timers — told E. G. Miller that cattle from Texas and Oregon were brought to that part of Arizona in several times the number that could be safely grazed. And when the big drought hit in the nineties they died by the thousands. Hance said in riding the country west of Camp Verde one could always see dead cattle and the range was bare as slide rock.[29]

All but the most reliable waters often dried up during droughts and sheep and cattle were forced to concentrate around the few permanent waters with resultant damage to the range. Feed might be reduced so much that cattle browsed on prickly pear and cholla cactus, their tongues and mouths filled with spines. Many owners seared the spines from cactus with blow torches to make it more edible for the cattle. Cottonwood trees along drainage lines were felled so stock could eat the leaves, twigs, and even the bark from small limbs. South of Holbrook, Arizona, during the drought of 1894, there was no range water between Lone Pine, on Show-low Creek, and Wild Cat Canyon — a distance of 50 miles or more. Losses were great and put many stockmen out of business. Potter and Barnes were wiped out.

The competition for grass, and the range maelstrom caused thereby, generated the first agitation for control of the public domain. The big outfits were tired of the continual strife; some were improving breeds and tending toward better livestock management. But there was little opportunity for even the simplest improved practices without some form of range control. The "little men" wanted protection from the big outfits and desired peaceful opportunity to run their small herds.[30]

The National Livestock Association, by the late nineties, began agitating for some effective control of the public domain. And in Congress after Congress bills for that purpose were introduced but failed of enactment.[31] President Theodore Roosevelt, in 1903, appointed a Commission to study and report on conditions on the public lands. But the gradually strengthening conservation movement generated the first control of grazing on the public domain.

The Act of March 3, 1891, authorized withdrawals from the public domain for forest reserve purposes. This Act, long and

detailed, repealed some obsolete public land laws and amended others, and at its very end had appended a 68-word section authorizing creation of forest reserves — but made no provision whatever for their administration. The reserves created thereunder soon became more of a threat to the livestock industry than a hoped for beneficence.

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1 Albert F. Potter, Potter Papers, "The National Forests and the Livestock Industry, 1912. This work will be noted hereafter as Potter Papers.

2 J Frank Dobie, *The Longhorns,* Little, Brown and Co., p. xiii.

3 Bert Haskett, "History of the Sheep Industry in Arizona," *Arizona Historical Review,* Vol. VII, No. 3, p. 4.

4 Edward N. Wentworth, *America's Sheep Trails,* Iowa State University Press, 1948, pp. 113-14.

5 *Ibid.,* pp. 239-40.

6 *Special Report on History and Present Condition of the Sheep Industry of the United States,* U. S. Department of Agriculture Bureau of Animal Industry, prepared by Ezra A. Carman and others, 1892, p. 922.

7 Wentworth, p. 237.

8 Haskett, "Early History of the Cattle Industry in Arizona," *Arizona Historical Review,* Vol. VI, No. 4, p. 4.

9 *Ibid.,* p. 1.

10 J. J. Wagoner, "History of the Cattle Industry in Southern Arizona," *University of Arizona Social Science Bulletin,* No. 20, p. 36.

11 Potter Papers.

12 Haskett, "History of the Sheep Industry in Arizona."

13 Carman, p. 947.

14 *Ibid.,* p. 948.

15 Wentworth, pp. 167-69.

16 Carman, p. 707ff.
Sheep numbers in the *Special Report* have been rounded off by this writer to the nearest 100. Numbers of sheep in Idaho, Nevada and Washington were not included in the *Special Report* of 1892, evidently being considered as inconsequential in the western sheep industry at that time.

17 Wentworth, p. 285.

18 *Ibid.,* pp. 522-44.

19 *Ibid.*

20 Fred Morrell, Interview, 1956.

21 The inapplicability of the Homestead Act of 1862 to the arid West was pointed out by S. B. Burdett, Commissioner of the General Land Office, in his

report of 1875; and by Major John Wesley Powell, first director of the Geological Survey, in a report in 1878. Powell recommended dry land pasturage units of 2560 acres tied into water, and units in irrigation districts of no more than 80 acres. But the land laws were never fully adjusted to western conditions. Webb, *The Great Plains,* Houghton-Mifflin Company, pp. 415-22.

22 Jesse W. Nelson and E. N. Kavanaugh, Interviews, 1956.

23 A. S. Mercer, *The Banditti of the Plains,* University of Oklahoma Press. Foreword by William H. Kittrell, p. 45.

24 Potter Papers, 1912.

25 This figure is derived by the author from various sources. W. P. "Chet" Wing and Jesse W. Nelson estimated possibly 200,000. Fred Cronemiller, long in the Forest Service in California, says he has heard an estimate of 650,000. Frank F. Latta, a California historian, says J. J. Lopez, who made the trip several times, told him half the sheep in Kern County, including the Tejon sheep, made the trip. The number no doubt varied with the years and fluctuations in sheep population.

26 Carman, p. 945.

27 *Ibid.,* pp. 982-84.

28 Radio address, 1936, by speaker on the Minidoka National Forest, but most of the material is from *Six Decades Back* by C. S. Walgamote. Memorandum from Howard R. Foulger, forester, Ogden, Utah.

29 E. G. Miller, Letter, March 28, 1956. Miller is a former supervisor of the Prescott and Coconino forest, and chief of lands in the Albuquerque regional office.

30 The description of conditions on the western range is a generalization and is amply documented in history. But as in all generalizations there were exceptions. There were many well established resident sheep ranches in all regions. Ownership of one class of stock, in spite of the proverbial antipathy of cattlemen for sheep, was not static. Some cattlemen changed from cattle to sheep raising when economic conditions favored sheep, and vice versa. Some ranchers raised both cattle and sheep. But the open range situation was nevertheless a maelstrom.

31 Leon F. Kneipp, Letter, September 28, 1955.

III

FOREST RESERVE THREAT

THE forest reserves, which around 1900 included some 40,000,000 acres in the Western States and Territories, were under the supervision of the General Land Office in the Department of Interior. The resources, in the absence of definitive policies for use, were largely locked up. This situation intensified the range furor and soon threatened with extinction a great segment of the sheep industry vitally dependent for summer range on the high mountains in the Reserves. The first "out-break" occurred in Oregon.

The Central Oregon Sheep Shooters Wars, starting in the early 90's, were intensified when the first regulatory action (April 14, 1894) governing all Forest Reserves "prohibited the driving, feeding, grazing, pasturing or herding of cattle, sheep, or other livestock within any of the reserves.[1] The Cascade Reserve in Oregon, stretching from the Columbia River to the California line included most of the Cascade Mountain chain — summer range for thousands of Oregon sheep. Many sheepmen who customarily grazed sheep in these mountains took their flocks to the Blue Mountains, already heavily stocked with sheep. In the mad scram-

ble for existence sheep owners grazed their flocks to the door yards of cattlemen who for years had enjoyed independent use of public domain in the foothills. The cattlemen organized to drive sheep back from what they called cow-range.

They established a dead line which ran through timbered country. Trees were marked by cutting a big saddle blanket through the bark. Cloth posters, printed in red ink, read something like, "Warning to all sheep men — you are hereby ordered to keep your sheep on the north side of this plainly marked line or suffer the consequences. Signed, Inland Sheep Shooters." Very little was known of the membership of these associations of which there were at least four. A letter to the editor of the *Morning Oregonian* is frankly explicit about their operations:

Mr. Editor:

Seeing that you are giving quite a bit of publicity to the Sheep Shooters of Crook County, I thought I would lend you some assistance by giving you a short synopsis of the proceedings of the organization during the past year . . . Therefore, if space will permit, please publish the following report: 'Sheep Shooters' Headquarters, Crook County, Oregon, December 29, 1904 — Editor *Oregonian*: I am authorized by the association (The Inland Sheep Shooters) to notify the *Oregonian* to desist from publishing matter derogatory to the reputation of sheep-shooters in Eastern Oregon. We claim to have the banner County of Oregon on the progressive lines of sheep shooting, and it is my pleasure to inform you that we have a little government of our own in Crook County, and we would thank the *Oregonian* and the Governor to attend strictly to their business and not meddle with the settlement of the range question in our province.

We are the direct and effective means of controlling the range in our jurisdiction. If we want more range we simply fence it in and live up to the maximum of the golden rule that possession represents nine points of the law. If fencing is too expensive for the protection of the range, dead lines are most effective substitutes and readily manufactured. When sheepmen fail to observe these peaceable obstructions we delegate a committee to notify offenders, sometimes by putting notices on tent or cabin and sometimes by publication in one of the leading newspapers of the county as follows:

'You are hereby notified to move this camp within twenty-four hours or take the consequences. Signed Committee.'

These mild and peaceful means are usually effective, but in cases where they are not, our executive committee takes the matter in hand, and being men of high ideals as well as good shots by moonlight, they promptly enforce the edicts of the association . . . Our annual report shows that we have slaughtered between 8000 and 10,000 head during the last shooting season and we expect to increase this respectable showing during the next season providing the sheep hold out and the Governor and the *Oregonian* observe the customary laws of neutrality . . . In some instances the Woolgrowers of Eastern Oregon have been so unwise as to offer rewards for the arrest and conviction of sheep-shooters and for assaults of herders. We have therefore warned them by publication of the danger of such action, as it might have to result in our organization having to proceed on the lines that dead men tell no tales. This is not to be considered as a threat to commit murder, as we do not justify such a thing except where the flock-owners resort to unjustifiable means in protecting their property. (Signed) Corresponding Secretary, Crook County's Sheep-Shooting Association of Eastern Oregon.[2]

As a result of the furor the Oregon delegation in Congress attempted to have the Reserve area reduced. But, instead, an examination of range conditions was made by Frederick V. Coville, a botanist in the Department of Agriculture, who recommended controlling "the evil effects of sheep grazing not by prohibiting but through regulation and management."[3] But this did not settle the issue for all regions.

Lack of provision for administration of the Reserves in the Act of March 3, 1891, aroused much unrest and dissatisfaction among governmental agencies, forestry and other organizations, and individuals having a deep interest in aggressively activating the conservation movement. Their efforts resulted in passage of the Act of June 4, 1897, which prescribed detailed principles for administration of the Reserves. And soon thereafter sheep grazing on the Southwestern Forest Reserves faced near extinction.

Secretary of Interior, Hitchcock, on June 30, 1897, issued a regulation providing in part:

The pasturing of livestock on public lands in forest reserves will not be interfered with, so long as it appears that injury is not being done to the forest growth, and the rights of others

are not thereby jeopardized. The pasturing of sheep is, however, prohibited in all forest reserves except those in the states of Oregon and Washington . . .[4]

The order was on the basis that sheep grazing was permissible in regions of high precipitation, but was completely inimical to the public interest in arid regions such as the Territories of Arizona and New Mexico; and it was the result of pressures on Secretary of Interior Hitchcock by powerful and divergent interests. Arizona became the major battle ground between the sheepmen and those who sought to exclude sheep from the reserves. The times were propitious.

In the mid-nineties the movement resulting in the Reclamation Act of June 17, 1902, assumed new impetus — a circumstance of great significance to the Salt River Valley of Arizona. The Roosevelt Reservoir and vast expansion of irrigation with all its beneficial accompaniments were in the offing. Water sources of the high Colorado Plateau were integral with envisaged development and had much to do with the creation of Northern Arizona Forest Reserves.

The Grand Canyon Reserve — the first and, at the time of the exclusion order, the only one in the Territory — was created by President Benjamin Harrison in 1893. And in 1898, President William McKinley established the Prescott Forest Reserve in the Bradshaw Mountains, and in August of that year the San Francisco Mountain and Black Mesa Reserves. The latter two included most of the best summer range for sheep in northern Arizona. And the pattern of land ownership within them provided conditions that "touched off" the issue of sheep grazing.

The two Reserves — and particularly the San Francisco Mountain — included several hundred thousand acres of lands granted to promote construction of the Atlantic and Pacific (later the Atchison, Topeka and Santa Fe) Railroad. Portions of these were timber producing and subject to lumbering operations of the Arizona Lumber and Timber Company, at Flagstaff, and the Saginaw and Manistee Lumber Company, at Williams, Arizona, and some smaller concerns. But non-timber lands and those having only inferior timber, or from which commercial timber had been removed, were salable at only a very low price — large acreages changing hands at 75 cents an acre.

The passage of the Forest Lieu Land Selection section of the Act of June 4, 1897 — repealed by the Act of March 3, 1905 — provided the avenue through which Atlantic-Pacific grant lands acquired at 75 cents an acre could be traded to the Government for selected lands with a base value of $3.50 to $5.00 or more an acre.

The "checker-board" pattern of ownership — odd-numbered sections being grant lands, even-numbered sections Government owned — provided the basis for argument against sheep grazing. The argument was that if the grant lands remained in private ownership, the owners or lessees thereof would have unlimited rights of passage for sheep over Government sections, and thus would ravage the range and wholly defeat the objectives the Reserves were created to serve. Abuses of the lieu selection procedure, however, soon aroused public criticism and resulted in repeal.

An alternative course would be to create conditions under which livestock growers would have to acquire the grant lands in order to continue their use of the range. The Aztec Land and Cattle Company (Hashknife) already owned great acreages of grant lands. But generally, at the time, there was little incentive for cattle and horse raisers to own ordinary grazing land. Cattle and horses roamed at large regardless of land status and Territorial laws were quite unrestrictive in that regard. Sheep, however, being always under the control of herders, were in a different category. If sheep were excluded from Reserve lands, the owners, in order to stay in business, would be forced to purchase or lease the odd-numbered grant sections and then demand ingress and egress over Government sections so they could utilize the lands they owned or leased. Thus the drive to exclude sheep from the Reserves was spearheaded. Other interests joined voluntarily, or were induced to join, with the proponents of sheep exclusion.

Some foresters were opposed to sheep grazing, or any other grazing on the Forest Reserves, doubtlessly because of damage then occurring to forest and range lands as a result of unrestricted competition. But probably of equal weight was their knowledge of European experience where owners of livestock using the forests possessed grazing "rights" and were not subject to control in the interest of forest and watershed management.

Propaganda, according to the late E. S. Gosney, a lawyer and woolgrower of Flagstaff, "started in 1898 and growing in intensity . . . came to Arizona and elsewhere *via* magazine and newspaper articles by 'arm chair' scientists and by engaging and plausible speakers, particularly in the Salt River Valley, where their frequent orations were as wild and unfounded as they were eloquent and convincing." And "Behind this propaganda, carefully covered, lay a 'lieu land speculation' of several million dollars, directed by a strong and efficient lobby, frequently appearing in Washington, D. C., and elsewhere."[5] Dire pictures were painted of the effects of sheep grazing upon watersheds and supplies of irrigation water. Photographs were taken, and circulated, of the graveyard at Williams, Arizona, showing the heavy growth of yellow pine seedlings inside the fence, and comparative absence outside. Thus the water users were drawn into the fight.

Gosney further relates the proponents of exclusion "succeeded in working up quite a following against grazing, particularly of sheep, in northern Arizona, and succeeded in getting to a limited extent, the aid of cattlemen in various localities, who felt that cattle would not be excluded."[6] Increasing and widespread publicity for exclusion of sheep, and countering articles and speeches principally by Gosney, created general apprehension among the citizens of northern Arizona; for not only was the sheep industry at stake, but also an important segment of the general economy which rested upon it.

A mass meeting was called at Flagstaff, August 23, 1898, at which a committee was appointed to look into the effect of the Reserves. Two days later, the Arizona Sheep Breeders and Wool Growers Association appointed a committee of two members to serve with the citizens committee to "look after the interests of the woolgrowers and the community generally in the matter of the proposed Forest Reserves." And at a meeting on December 23 of the Executive Committee of the Association, it was reported Territorial Governor Murphy, before going East, "had requested them to secure petitions to the Department of Interior requesting sheep be allowed to graze within the Forest Reserves." Also E. S. Gosney, Secretary of the Association, was authorized to go to Washington, D. C. on the "sheep grazing and Forest Reserve question."[7] Gosney obtained a suspension of the order for 1899.

Then the sheep raisers marshaled their forces for the fight for survival.

A special meeting of woolgrowers was called at Flagstaff on July 3, 1899, to discuss matters "particularly, the matter of grazing upon the Forest Reserve" that necessitated the permanent organization of a general Wool Growers Association. And on August 15, 1899, the old Sheepbreeders and Wool Growers Association, first organized in 1886, was reorganized as the Arizona Wool Growers Association with two coordinate Divisions — the Western and the Eastern.[8]

And now Albert F. Potter, the Arizona stockman who would play a leading role in the fight against sheep exclusion, and later in the administration of grazing on the National Forests, entered the scene. He was elected chairman of the reorganization meeting, and later Secretary of the Eastern Division. E. S. Gosney was elected President of the general Association, and Secretary of the Western Division.

There were two reasons for the "double-barreled" organization — those sheepmen using the San Francisco Mountain Reserve being the Western and those using the Black Mesa the Eastern Division. The Black Mesa (South) contained the White Mountains, the headwaters of Salt River — primary water source for the proposed Roosevelt Reservoir. Two hundred miles north westward, the southwestern portion of the San Francisco Mountains Reserve drained into the Verde River — a tributary of the Salt emptying into it below the Roosevelt Reservoir, but important to envisaged irrigation development. Between these extremes, drainage from both Reserves was mostly into the Little Colorado River, and thus did not involve the Salt River Valley. Also the Atlantic-Pacific land grant traversed the full east-west extent of the San Francisco Mountain Reserve and in large part for the 40-mile width of the primary grant — 20 miles on each side of the Railroad; but it extended into only a portion of the Black Mesa (North) and in a comparatively narrow strip.

The Arizona Wool Growers were not opposed to forest reserves. Their attitude is expressed in the minutes of the preliminary reorganization meeting of July 3. "It was the sense of the meeting, heartily concurred in by each member, that the Association, by such organization and by united effort, could and should, not

only protect the general interest of the sheep business of Northern Arizona, but greatly aid the Government in carrying out the purposes of the Forest Reserve and that these things should be kept specially in mind in the organization." This attitude was supported fully in the By-Laws adopted at the meeting on August 15.

Also E. S. Gosney in an open letter "To the Fair-minded People of Salt River Valley," said: "The citizens and sheepmen of northern Arizona are in no way opposed to forest reservation. The American Forestry Association advocates no principle we do not endorse. The Department of Forestry seeks no object that is not a public necessity. Between honest friends of forestry the contention is one of method, of necessary regulations and restrictions. We all agree that the forests should be protected, but what is necessary for their protection, is the question about which we differ. For twelve years I have tramped over and studied one district, and I have learned enough of that district to know my opinion about any other district where climate and conditions are different is worth very little. Regulations found necessary in one forest, would be the height of folly in another."

The Woolgrowers, even in the face of disaster, acted with considerable deliberation. In January of 1900 Potter and Gosney were sent to Washington, D. C. to get the exclusion order rescinded, or at least a further suspension.

Potter arrived in Washington before Gosney who attended the annual meeting of the National Live Stock Association at Fort Worth, Texas. Potter first called on Binger Hermann, Commissioner of the General Land Office, in the Department of Interior, and found him not only willing to consider suspension of the Order, but helpful in giving him some valuable suggestions for presenting their case to Secretary Hitchcock. Potter then called on Gifford Pinchot, Chief of the Bureau of Forestry, in the Department of Agriculture, to discuss the sheep grazing situation in northern Arizona, and to sound out his attitude toward granting customary use of the ranges during the following summer to allow time for an examination of conditions on the ground by a forester to determine the extent to which restriction in grazing would be necessary. Pinchot agreed decision should be based upon conditions on the ground rather than generalizations.

When Gosney arrived they met with Secretary Hitchcock and urged him to defer action to exclude sheep from the San Francisco Mountains and Black Mesa Forest Reserves pending an examination by Pinchot and Coville, who had made the examination of the Cascade Mountain Reserve in Oregon. The Secretary soon agreed to their proposal. Pinchot and Potter then worked out the plan and scope of the investigation. It was agreed Potter would act as guide, horse wrangler and general factotum for the trip over the reserves — an arrangement having a climactic influence on Potter's future — and it could be that of the Forest Service.

The investigation started from Winslow, May 28, 1900. The party comprised Pinchot and Coville, Potter, Professor E. C. "Con" Bunch representing the Salt River Valley Water Users Association, and Alex Nichols as cook and driver of the chuckwagon. Various stockmen accompanied them part time.[9]

"When Pinchot and Goville arrived at Winslow they did not look like experienced range men. The first night out camp was made at a stock tank, on Jack's Canyon, which covered with a deep scum contained a dead cow. Without a word Potter and his side-kicks knelt down, pushed the scum aside, and took long drinks, then watched Pinchot and Coville from the corners of their eyes. After a long pause, and it could be with some internal qualms, they walked to the tank, went through the same procedure, and drank their fill. Thus the ties of friendship and brotherhood were established."

The party went to Moki Spring, Buckhorn Spring, Potato Ranch, around the head of Leonard Canyon to Alder Lake, then east to Showlow, visiting many well known ranches and landmarks enroute, then the Cooley Ranch, Horseshoe Cienega, Springerville, Valle Grande, Big Lake in the White Mountains, Alpine, Luna, and down the Blue River to Clifton. Coville left the group at Horseshoe Cienega and returned to Washington. Pinchot then went to the Salt River Valley and to Flagstaff, where he investigated ranges on the San Francisco Mountains Reserve.

After six weeks of travel and many conferences, Pinchot and Coville recommended sheep grazing should be allowed — but under control. Their findings included two basic points — grazing of livestock was compatible with major objectives for establish-

ment of forest reserves and was essential to the economy of the regions in which the reserves were located. But their report did not settle the issue. The stakes were high, and proponents for exclusion were still powerful and persistent.

The prospects for sheep grazing "soured up" again in 1902. Potter was now Grazing Expert in the Bureau of Forestry; and Gosney, who had carried much of the fight, was unable, at the time, to go to Washington, D. C. to represent the Woolgrowers. They were represented by E. S. Clark and Judge Jones, "who first went to the White House, and were informed that the question of sheep grazing on the San Francisco Mountains Forest Reserve had been settled and President Roosevelt did not care to reopen the matter. They then came to the Forest Service to see Mr. Pinchot and ask him to assist them." He told them he would see what he could do.[10]

Pinchot then called in Potter and told him the only hope he saw was to arouse the personal interest of the President sufficiently for him to direct Secretary Hitchcock to rescind the Order. And he continued, "I have an appointment so see the President at noon tomorrow. If you will get into my hands by 11 A.M. a one page statement requesting such action and giving convincing reasons to support it, I will hand it to the President and ask him to glance over it immediately. But be sure it is not more than one page, for if it is the President will lay it aside for later reference; but if it is a single sheet I can urge him to glance over it and let me explain any point that is not clear to him." Potter went to work. First he counted the lines on a single sheet of paper and fixed his maximum limit. Working through the night he prepared draft after draft, tearing up one after another. But by breakfast time he had the essential facts within space limits.

It worked out even better than Pinchot had anticipated. The President read the statement; touched a button to call in his secretary, saying to him, "Take a letter to the Secretary of the Interior. 'Dear Mr. Secretary: From information which has just reached me, it is my opinion that sheep should not be excluded from grazing on the San Francisco Mountains Forest Reserve.' " That reopened, reversed and settled the matter for sure. When Clark and Jones called later in the day, as you can imagine, they

were very happy men.[11] And in a letter to Potter dated February 6, 1935, Barnes said: "I sat next to Elias Clark not long since and told him what you wrote about his visit to Washington and he agreed with your statement about Roosevelt."

In a subsequent letter to Barnes, August 31, 1936, Potter said, "As you and I know, 'Teddy' had very little use for a sheepman and I do not believe there was any other man besides Mr. Pinchot who could have induced him to reverse the decision that had been made about the exclusion of sheep." And Leon F. Kneipp, in a letter to this writer, said: "It is entirely possible that T. R. personally had something to do with the proposed exclusion of sheep. When stockmen, under the leadership of Senator Tom Patterson of Colorado, asked for an appointment in December, 1905, to protest against the proposal to charge fees for grazing of livestock on the forest reserves, eight Forest Service men, including myself, were brought in to balance the picture. T. R., after giving everybody a chance to speak his piece, gave his own ideas about western range conditions, during which he pounded the arm of his chair with his clenched fist and asserted, 'Gentlemen, sheep are dee-structive'."

The fight waged by the Arizona Woolgrowers was instrumental in saving sheep grazing on all arid forest reserve range. And, in the meantime, momentous change was in the making.

Responsibility for Federal forestry was divided. Administration of the Reserves was in the Department of Interior; technical phases were under the Bureau of Forestry in the Department of Agriculture. Application of the natural sciences was essential to management, and most of the trained men in the Federal Government were employed in Agriculture. These men were being called upon constantly by Interior for assistance. Secretary Hitchcock recommended transfer of the Reserves to the Department of Agriculture.

The livestock associations supported the recommendation. E. S. Gosney had for years carried the brunt of the long, bitter fight against sheep exclusion from the reserves — in the press, in speeches, in forums, to the livestock associations of the West. Throughout the battle his main support in Washington officialdom had been Gifford Pinchot, in the Department of Agriculture. At Gosney's request Mr. Jesse Smith, of Utah, introduced

a resolution approved by the Executive Committee of the National Live Stock Association, and unanimously adopted at its annual convention in Chicago, Illinois, December 3-6, 1902. The resolution reads:

> Whereas, the national forest reserves and their administration are intimately related to the livestock industry of the United States and to the protection and conservation of all the industries of the West; and
>
> Whereas, The United States Department of Agriculture has consistently assisted and sustained that industry, and further, has investigated with thoroughness and impartiality the grazing problem in many of national forest reserves and has reached just conclusions; and
>
> Whereas, President Roosevelt, in his message to Congress, emphatically recommends the transfer of the administration of the forest reserves from the Department of the Interior to the Department of Agriculture, and the Secretary of the Interior himself, in his annual report just issued, makes the same recommendation; therefore, be it.
>
> Resolved, That the National Live Stock Association approves and endorses the policy of President Roosevelt for the transfer of the administration of the national forest reserves to the Department of Agriculture, and urges the immediate enactment of the necessary legislation for that purpose; and
>
> Resolved, That this association approves and endorses the general policy for the regulation of grazing within the national forest reserves reached by the Department of the Interior in co-operation with the Department of Agriculture and officially announced in the last annual report of the Secretary of the Interior, as a marked improvement over the former policy, and favors the management and protection of the reserve in accordance with this policy,[12] and
>
> Resolved, That this Association demands business management in the application of this policy in co-operation with the national and local live stock associations, and a just regard at all times for all the interests involved; and
>
> Resolved, That we ask from Congress the resource necessary to give this policy full and immediate effect.

"The same resolution in substance was adopted by the Na-

tional Wool Growers Association and by practically all of the Livestock Associations of the Western States, where the forest reserves were located and the forest reserve administration affected grazing and agriculture."[13] The Congress, on February 1, 1905, passed the bill transferring administration of the forest reserves to the Department of Agriculture.

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1 *The History of Range Research,* 1944, Forest Service mimeographed paper prepared under the supervision of W. Ridgley Chapline, chief of Range Research.

2 Historical Records, Ochoco National Forest.

3 Chapline, *The History of Range Research.*

4 E. S. French, Letter, September 6, 1955. Writer, now retired, was formerly law officer, Solicitor's Office, Department of Agriculture, stationed at Albuquerque, New Mexico.

5 E. S. Gosney, Extracts from an article prepared and given to the Arizona Pioneer's Historical Society. Extracts furnished this writer by H. B. Embach, Secretary of the Arizona Wool Growers Association. Gosney was a leader of the fight waged by the Arizona Wool Growers Association against exclusion of sheep from the forest reserves.

6 *Loc. cit.*

7 Arizona Wool Growers Association, Minutes of Meetings.

8 *Loc. cit.*

9 Potter Papers, Itinerary of Trip, Letter to Pinchot.

10 Potter Papers, Letter to Will C. Barnes, December 31, 1934.

11 *Loc. cit.*

12 This policy was prepared in the Bureau of Forestry and transmitted directly to Secretary of Interior Hitchcock by Gifford Pinchot in letter dated October 31, 1901. Copy of letter in Potter Papers, "Them Were the Days."

13 Potter Papers, "Them Were the Days."

IV

MEN AND A SYSTEM

THE Forest Service, new and untried, now faced the task of creating and effectuating a system of controlled grazing on the national forests — mostly brushy and timbered mountainous wilderness. There were no guide-lines for no government ever had attempted such an undertaking.

The job was progressive, with a rapid succession of new situations, for new forests were being established thoughout the West. Net area within forest boundaries in the continental United States increased from 80,000,000 acres in 1905 to around 170,000,000 in 1909 then decreased and levelled off at around 160,000,000 — substantially one-fifth of the area of the eleven western range states. Control of grazing use was the major activity on the great majority of forests. In 1905, 692,000 cattle and horses and 1,514-000 sheep and goats were grazed by 7,981 permittees; in 1912, 1,500,000 cattle and 7,551,000 sheep and goats were grazed by 26,500 permittees.[1] The initial phase evolved during the period 1905 to 1911, but it was transitional and in places extended well into the "teens." The job fell to Westerners.

The Service, in its beginning, was divided in two camps —

the technical foresters and the westerners. The foresters knew little of the West of that day, and less of the western livestock industry — except Gifford Pinchot who had travelled the West and had conducted the investigation of sheep grazing in Arizona. They were idealists. Because of their training background many thought livestock grazing in the forests was incompatible with forestry and watershed management.

On the other hand the westerners — not foresters — knew the West and the environment in which they worked. They embraced forestry as part of the whole conservation movement. They were pragmatists. They knew how the livestock industry historically was plaited into all western life. They strongly sensed that recognition of grazing use in the pattern of management was essential to successful establishment of the national forest system. And this embodied an underlying concept of reconciling grazing use with forestry and watershed requirements — a concept voiced before forestry organizations and livestock associations during the early years. Deeper still the fission between technical foresters and westerners, or so-called "practical men" was rooted in the genesis and early growth of forest conservation.

Initial acceptance of the concept of forest conservation was widest in the Eastern states. Their conversion to agricultural production had necessitated clearing large areas of forest land. Additionally the nation's growth along the Atlantic Seaboard had drawn heavily on the immediately tributary forest resources to meet the demands for construction, fuel and manufacture.

The "Broad Arrow" trees marked for the British Royal Navy in New England was, perhaps, the initial phase of forest exploitation other than to meet immediate local needs. But lumbering spread rather rapidly through New England into New York, Pennsylvania, the Lake States, and the South Atlantic and Gulf States. And it was in these States where alarming forest conditions first became evident — conditions similar in many ways to those which during the eighteenth and early nineteenth centuries caused various European nations to adopt techniques of forest management to conserve and augment forest resources.

While these European techniques made great concessions to forest use by wild game animals, they made few or none for use by domestic livestock. Nor in the eastern United States was forest

grazing by domestic animals a factor of major economic importance. Long, severe winters, short summer seasons favorable to open range grazing, the generally small holdings of individual operators, minimized the forest areas as principal sources of meat, hides and wool. Superficial acceptance of these circumstances seemed, therefore, to warrant the conclusion that ideal forest management could be attained through techniques similar to those practiced in Europe.

The earliest American foresters received their technical training in Europe. The earliest American forest schools largely modeled their curricula on those of European schools. Early American foresters were familiar with the conditions, uses, economic and physical factors prevalent in forests of the eastern half of the United States. They knew little of those which prevailed, or impended, in the western half. And the national forest system was dominately developed in the West.

The western forest reserves embraced the least accessible timber. Townships containing large areas of privately owned land usually were not included within reserve boundaries. In many cases after initial reservations had been made they were rescinded, or suspended, to allow extensive additional filings by States and individuals. So the West had available much more timber than it possibly could use before carrying costs equalled stumpage values. The old theory was if timber could not be cut within ten or twelve years following purchase, the cumulative cost of interest, taxes, fire and other protection, would amount to more than the timber would return when cut. Hundreds of thousands of acres reverted to county ownership through tax delinquency, and many a man who had slaved for years to hold onto 160 acres of superlative timber wound up by selling to some big operator for a pittance. And revenues from timber on the reserves were in the future. Intervening years are progressively demonstrating that over the long pull the initial forestry objectives of the Forest Service were sound and wholly in the national interest. But for the initial short haul they were economically vulnerable.

On the other hand grazing by domestic livestock complexly wedged into the national forest movement. The foundation of the western economy was mining, and livestock grazing on public lands. They brought in from the outside world money needed for

all phases of development. The supply of high summer range was not nearly sufficient to meet demands. During the summer, livestock had to be removed from irrigated hay lands and pastures, fall and winter ranges. The lush forage of the mountains, better water supplies, more moderate temperatures and relative freedom from insect pests, turned feeders into prime meat.

Furthermore great fires which had raged, ignored and uncontrolled, during earlier decades had opened up vast expanses of formerly virgin timber lands, which were quickly covered with weeds, grasses and shrubby forage, capable of supporting many more livestock than would the normally intermingled treeless meadows, slopes and mesas. Such areas would yield no return from timber for a half-century or more, but they could be utilized by livestock the year following the burn and would yield an income year after year.

Fees paid for grazing on national forests annually exceeded timber receipts from 1906 to 1910 — when each reached about $1,000,000; they followed timber closely until mid-1917, and then substantially out-gained timber until mid-1921, reaching a peak of around $2,600,000 in 1919.

Some of the most ardent foresters did not recognize the fact that the practice of forestry on the public lands of the West could not become of appreciable economic importance to many communities until after privately-owned timber was no longer available at give-away prices and new conditions in timber markets had created new sources of income in addition to that from livestock and minerals. Even so, since forestry was the motivating influence that spiralled the movement, the foresters were hailed as the "chillen of God," — and in a large sense they deserved it. But to the "practical men" the economic reality was a dominant factor in their thoughts and plans. However, the two camps were not antagonistic. They were simply the result of the singular, and fortunate, personnel make-up of the Forest Service. And in this situation, Albert F. Potter, the Arizona stockman, became the chief architect of Forest Service grazing policies and governing regulations of the Secretary of Agriculture. His experience and personality fitted him for this unprecedented work.

Potter was born at Ione, Amador County, California, November 14, 1859. He spent his early youth in California. He developed

incipient tuberculosis and upon his doctor's advice went to Holbrook, Apache County, Arizona. He had a natural aptitude for the new life and became quite a rider and expert in breaking horses for range work. He formed a partnership in the cattle business with Joe Woods and later with an uncle, William Curtis. Apparently Curtis purchased Woods' interest in the outfit as the brand marks were not changed. The Potter ranch was on Milky Wash, south of the Petrified Forest area. And Potter left a landmark — Potter Mesa, which lies south of Milky Wash. But the drought of 1894 wiped out their cattle business.

Then, to tide him over, he obtained appointment as Inspector for the Territorial Livestock Sanitary Board. Later he ran for Treasurer and Will C. Barnes for Assemblyman of Apache County. Both were elected. They campaigned together, of which Potter says:

> As a novelty we had cards printed with our photographs in one corner. This was at the time colored picture cards were being given as premiums with Arbuckle's Coffee, and a newspaper on the side of our opponents commented that Will C. Barnes and Bert Potter should send their cards to Arbuckle Bros. to be included in the series of *Rare Birds of America*. We enjoyed that shot as much as anybody and in fact it helped elect us.
>
> There were no radios in those days, so we had to canvass the county by holding meetings in all the precincts, usually at the school houses. At these political meetings it was customary for the candidates to furnish music for a dance which followed the speech making. Will and I added to this program by taking advantage of his musical talent and giving the audience some cowboy and comic songs. Comment reached my ear that our songs were better than our speeches.[2]

After his term as county treasurer expired, Potter went into sheep raising. Sheep in 1896 had dropped to a low of 75 cents a head. He reasoned if McKinley was elected with a Republican Congress, a higher tariff would be placed on wool and the value of sheep would go up. So he obtained as many options on sheep outfits as he could get, arranged a relay of saddle horses and rode to Winslow to get election returns over Western Union. When it became evident the Republicans were in, he started out to take up his options, riding all that night and the next day. His

hunch was right; sheep prices went up, and he wound up with about 4000 head paid for with profits on initial options.

Potter, in view of an unfavorable outlook for winter feed, sold his sheep in the fall of 1900. And during the following spring and summer he travelled extensively through the range lands of the Northwest. He says, "Returning to Arizona in the fall, I was about to engage in sheep raising again when a letter was received from Mr. Pinchot asking whether I would consider entering the Government service as an expert on grazing."

Pinchot and Coville, during the weeks they were with Potter on the sheep investigation, had expounded their views on natural resource conservation at length. They seemed to make sense to Potter, and as he applied their philosophy to the practical details of western range management as he knew them, he grew more and more enthusiastic. On the other hand, Pinchot was impressed with Potter's knowledge of the livestock business and western conditions. He says, "Potter's soft, emphatic, knowledgeable speech, his thorough mastery of his business, his intimate acquaintance with the country and its people, his quiet, persistent steadiness, his complete fearlessness and fairness, gave him a standing and an influence that were remarkable. I was determined to have him in our work for good," and, "He was the cornerstone upon which we built the whole structure of Grazing control."[3]

And it could be the sheep investigation had also impressed Pinchot with the intricate relationship of the livestock industry to forest conservation, and the need for an experienced livestock man in the Bureau of Forestry.

Potter was appointed Grazing Expert, October 17, 1901. He says, "I accepted the place at the earnest solicitation of my friends, who all seemed to be of the opinion that the Government had made a step in the right direction in selecting a stockman to work with the stockmen in trying to solve a question of such importance to the livestock industry."

His early work in the Bureau was in several fields. He was an analyst and interpreter of western tradition, precedent and psychology. He could tell Pinchot and his colleagues what ideas the western people would take seriously and those that would make them laugh in the face of the Bureau. In this field he was a major influence in the development of Forest Service philosophy,

policies and procedures. He also made field examinations to determine areas suitable for national forests.

He rented a strawberry roan horse from a Mormon Bishop in Salt Lake City in 1902, and rode the length of the Wasatch Mountains, resulting in the later establishment of the forests in that part of Utah. He and R. S. Kellogg, in the winter of 1901-02, examined and reported on the proposed Santa Rita Experimental Range Reserve and areas later included in the Chiricahua, Graham Mountain and Huachaca Mountain Forest Reserves in southern Arizona. In 1903 he was leader of a party making examinations in northern California of areas which later became the Trinity, Modoc, Klamath, Shasta, Lassen, Plumas and Tahoe Forests. His report on California areas "first called attention to the desirability of giving a portion of the receipts from the national forests to the counties as reimbursement for taxes lost by the lands remaining in government ownership."

He was assigned in 1904, at the request of President Roosevelt, as an expert on the Public Lands Commission. His report covering conditions on the western public lands was the most detailed and comprehensive up to that time. He presented his report personally to the President, who was pleased with it.

Meanwhile, Potter was studying administrative practices of the General Land Office, establishing active contacts with leaders of the livestock industry, and getting in touch with outstanding research men in fields related to range management. He also studied Forestry under Pinchot's guidance and passed a Civil Service examination. People had confidence in his integrity and fairness. Thus, when the Reserves were transferred, there was no one better qualified for his job as Chief of Grazing.[4]

Potter, in the development of grazing policies and the governing regulations, drew upon all available sources of knowledge and technical practice, at that time the obvious consequence of trial and error. And he enlisted the aid of the best men obtainable having experience with the western range.

Doctor F. V. Coville, Pinchot's aide on the grazing investigation, was a leading botanist with a wide knowledge of the influence of grazing and other factors upon forage conditions. Doctor E. W. Nelson, who later became Chief of the Biological Survey (now the Fish and Wildlife Service) was a famous naturalist.

He, like Potter, threatened in youth by tuberculosis, had gone to Apache County, Arizona. So he and Potter shared a similarity of knowledge of western range use and conditions. Another was Doctor Green, a member of the Bureau of Plant Industry — a man of genius. The story was that Green had been educated for the Catholic priesthood but became so interested in science he made it his life work.

W. C. Clos, who had only a short tenure in the Forest Service and whom few now even remember, had a large part in developing grazing procedure. He probably was born in Switzerland and certainly received technical training there in Animal Husbandry and Botany. For years he had been the principal employee of John B. Seeley of Mount Pleasant, Utah, who at the turn of the century was one of the country's outstanding breeders of purebred Rambouillet sheep. Potter had met Clos while making forest boundary examinations in Utah. He was so impressed with his qualifications he prevailed upon Seeley to agree to Clos's joining the Forest Service. Clos was an encyclopedia on range management. His European antecedents and experience gave him an appreciation for conservation of natural resources and governmental exercise of means to that end. His long association with Seeley imbued him with the viewpoint of the livestock operator. He remained with the Service during the early developmental period in range management.

Secretary of Agriculture James Wilson, who had a wide knowledge of the prior history of range use, contributed to the formulation of grazing policies — particularly in conferences with stockgrowers. Wilson was especially insistent that grazing privileges should never be allotted in a manner making it possible for permittees to establish prescriptive rights. For he had observed the adverse results of such rights in the management of forests and watersheds in Europe. Furthermore, Wilson was well-informed on the chaotic conditions on the western range and instructed that adjustments be made slowly.

By mid-1907, Potter's staff consisted of Clos, Joe Campbell (who had been an Inspector for the Arizona Territorial Livestock Board), C. H. Adams (who had been in the livestock business) and Leon F. Kneipp. Will C. Barnes joined the staff in 1907.

Barnes had managed the Esperanza Cattle Company, with

headquarters on lower Chevalon Canyon east of Winslow, Arizona, and summer range in the Long Tom Canyon country, about 70 miles southwest of Holbrook. Later he ran cattle in New Mexico. He received the Congressional Medal of Honor for his part in an Apache Indian uprising near Fort Apache. He served in the Territorial Legislatures of Arizona and New Mexico. During and after his Forest Service career he authored several western historical books and numerous articles. He received many honors.

Kneipp, in 1900, became a Chicago transplant to Forest Ranger on the Prescott Forest Reserve. He was visiting his family at Prescott. His step-father, Robert E. Morrison, who was United States Attorney in the Territory, thought conservation would become an increasingly important public activity and Kneipp would have no difficulty getting a Forest Ranger's job. Local boys were not then too much interested. The mines paid $3.00 a day for eight hours work, less $1.00 a day for board and $1.00 a month for Company doctor. Cowhands and sheep herders got $30.00 to $40.00 a month and "found." Rangers were paid $60.00 a month but had to furnish saddle and pack horses and pay all their other expenses. Hay cost up to $40.00 a ton and rolled barley $2.70 per 100-pound sack.

The West appealed to Kneipp, who had started working at an early age on South Water Street in Chicago. But it was good training for his new life. For he says: "Here the toughest street hucksters loaded their wagons for the day's sales. It was a great training school in frank and brutal statement; and of the ways in which human nature is sometimes trustworthy beyond belief and sometimes untrustworthy beyond imagination." Later he became a shipping clerk on the Chicago docks for a Great Lakes steamship line, where he learned much about business practices and organization and dealing with forceful individuals.

He worked as Ranger and Forest Supervisor in Arizona and New Mexico. Then, in 1907, he went to Washington, D. C. There at Potter's request he was transferred to his staff, and soon he became Chief of the Office of Grazing Control. In 1908 he became Assistant Forester, second to Potter in the Branch of Grazing and virtually in charge of the Branch, beginning in 1910, when Potter became Associate Forester. From 1915 to mid-1920 he was

Regional Forester at Ogden, then Assistant Chief of the Forest Service in charge of the Branch of Lands, where he remained until retirement.

It became evident in mid-1904 that the bill transferring the Forest Reserves from the Department of Interior to the Department of Agriculture would be passed. So Secretary Wilson called a conference of western livestock growers that year to help develop basic principles of range management. This, according to Potter, brought out many good suggestions from the stockmen and led to the adoption of a definite policy. The most important points were: (1) that priority in the use of the range would be recognized and the grazing privileges in the beginning allowed those who were already using the range; (2) that any changes found necessary either in the number of stock grazed or the methods of handling them would be made gradually after due notice had been given; (3) that small owners would be given a preference in the allotment of permits and be exempted from reduction in numbers of stock; (4) that checking of damage to and improvement of the forest would be brought about so far as possible without total exclusion of the stock; (5) that the forage resources of the National Forests would be used to the fullest extent consistent with good forest management; and (6) that the stockmen would be given a voice in the making of rules for the management of their stock upon the range.[5] To further the latter, the grazing regulations provided for Forest Service Advisory Boards within national, state and local livestock associations composed of members who were grazing permittees.

By the time the bill passed, fundamentals had been worked out. And with the transfer the national forests became the one statutory form of public land administration that then afforded local livestock users protection of their ranges from outside invasion.

Albert F. Potter, later writing of the job confronted by the Forest Service, said, "Prior to 1905 the effort made to remedy conditions was a feeble one, based more on theory than practice, influenced largely by misrepresentation and false impressions, and weakened by long-range direction. At the time the Forest Service took charge of the national forests comparatively little progress had been made, and at the outset the Service was confronted by

the problem of range management in all its multitudinous phases."

The Forest Service brought new ideologies of wild-land resource administration to the national forests and translated them into action. One of these was conservation with use; another was benefit to the "little man" — the home builder — who in those times faced great odds; all the resources of the Reserves to be made available to local people under such restrictions as would insure the permanence of the resources; local differences to be settled as far as possible out on the ground; and "where conflicting interests must be reconciled the question will always be decided from the standpoint of the greatest good to the greatest number in the long run." The encompassing credo was contained in a letter of instructions from Secretary James Wilson to Chief Forester Pinchot, dated February 1, 1905. The first grazing regulations became effective July 1, 1905,[6] and grazing fees were charged beginning January 1, 1906.

President Theodore Roosevelt, in a letter to Secretary James Wilson, dated December 26, 1905, endorsed Forest Service grazing policies. He said, in part:

> In granting grazing permits you give preference first to the small near-by owners; after that, to all regular occupants of the Reserve range; and finally to the owners of transient stock.
>
> This is exactly as it should be. The small nearby owners are the homesteaders, the men who are making homes for themselves by the labor of the land and to bring up their children thereon. The other occupants of the Reserve range — that is, the larger ranch owners —are only entitled to come after the small man. If, after these have been admitted, there still remains an ample pasturage, then the owners of transient stock, the men who drive great tramp herds or tramp flocks hither and thither, should be admitted. These men have no permanent abode, do very little to build up the land, and are not to be favored at the expense of the regular occupants, large or small.
>
> This system prevents the grass from being eaten out by the great herds or flocks of non-residents, for only enough cattle and sheep are admitted upon the Reserves to fatten upon the pasturage without damaging it. In other words, under the policy you have adopted the Forest Reserves are to be used as among the most potent influences in favor of the actual homemaker, of the man with a few dozen or a few score head of cattle, which he has

gathered by his own industry and is himself caring for. This is the kind of man upon whom the foundations of our citizenship rest, and it is eminently proper to favor him in every way.[7]

And Potter, reviewing and writing in 1912, said: "Protection of the settler and homebuilder against unfair competition in the use of the range has been the keynote of the plan of range administration within the national forests and by adherence to this principle the forests have been made to contribute very materially to the development of the surrounding agricultural lands. Until the lands were reserved, few settlers were able to make much progress against the overwhelming competition which they had to meet and in many localities they were almost driven from the range."[8]

Among other measures favoring the "little man" was provision in the regulations for establishing the number of sheep or cattle up to which he could obtain permit by grant of grazing privileges. These "protective limits," established by forests or localities, represented about the number of range livestock needed in connection with a farm to provide a suitable family living in accordance with custom and local conditions. They were subject to change with changing conditions.

The regulations provided that range for the livestock of small owners would be obtained if necessary by reductions in the numbers grazed by larger owners. And the larger owners, engaged primarily in the business of raising range livestock, used the bulk of the range. But it was not then anticipated that provision for small owners would greatly disturb the larger operations. As Albert F. Potter said in 1908, "We (the Forest Service) do not consider that any reduction should be made on the permits issued to large owners except for two purposes: one is to stop damage from overgrazing, in which the necessary reduction is made proportionately upon the larger owners; and the other is to take care of the small herds of stock owned by bona fide settlers of the country."[9]

The regulations were amplified considerably during the first two or three years of range administration. For example, it was the intention that controlled grazing should not interfere with the regular flow of range livestock business transactions. But business monopolies generally were a public issue at the time,

and the question of monopoly in use of the range was raised by stockmen in connection with the sale and purchase of livestock permitted to graze on the national forests.

A small owner, who acquired the means, could increase his grazing privileges above the "protective limit" by purchase of permitted livestock. And a large owner also could increase his grazing privileges by purchase. Potter explained the situation. "I have heard it stated that, owing to the fact that we allow a transfer of stock, or rather allow a permit to follow a transfer of stock, this would result in the monopoly of grazing privileges." And he said further that if such transfers were not allowed it would be a serious drawback to the regular flow of business. So, where it appeared the privilege was being abused and there was danger of monopoly, a maximum limit was established. And he said the Carbon County Wool Growers Association, in Wyoming, had recommended a maximum limit of 12,000 sheep for the Sierra Madre National Forest.[10]

The 12,000 "maximum limit" is notable since it was considerably less than the number for which some owners obtained grazing privileges on the basis of their use of the range prior to its inclusion in the National Forest — as explained in a later chapter. And maximum limits were not a factor in determination of privileges based on prior use. But later the maximum limit restrictions were applicable in cases of transfer.

The formulation of policies and regulations concerning limitations on the transfer of grazing privileges and application of the limitations was complicated by involved, and often huge individual, partnership and corporate interests and combinations of interests, the unraveling of which was a meticulous process. However, the whole system was new; and, although most such cases were handled on the basis of getting a permittee's operations squared away with regulations, there were some conflicts and appeals from Forest Service decisions.

Policies and regulations recognized every form of livestock business organization and operation known on the western range. Some were unique in organization, in magnitude, or both.

Small owners generally over the West seldom formed group organizations for cooperative handling of livestock. But closely knit Mormon communities, chiefly in Utah, were an exception.

Brigham Young introduced the United Order in 1855 — eight years after the Mormons arrived in Utah. Members of the Order executed thousands of deeds to the Church as "Trustee-in-Trust" for their property. The town of Orderville is typical of the way the Order operated. The Order was incorporated there July 14, 1875, with a capital stock of $100,000 at $10.00 a share. All members went through an initiatory rite of baptism. All property which was deeded to the Order was appraised and credited on the books to the previous owner. The membership jumped from 150 in July, 1875, to 453 just three months later. Maximum membership was about 600 in 1882.

The Order was directed by a board of nine members. It first rented 1200 sheep from the Church for the annual sum of one and one-half pounds of wool and one-tenth lamb per sheep. In 1881 it had 5500 sheep. No dividends were paid for five years. All male workers received a wage of $1.50, and women 75 cents per day and board. The Order dissolved in 1889; the sheep sold for $2.00 per head.[11] The United Order formed the basic pattern for the Mormon "Co-ops."

Many individuals in Mormon farming communities owned as few as ten head or less of range sheep and cattle. They "worked" their farms and had little time for the care of their animals while on summer range in the mountains many miles from home. So they "pooled" their stock in community flocks or herds. Individuals retained ownership of animals placed in the pool, and stock was identified by each owner's brands and marks. One or more herders were hired to look after the herd and owners were assessed proportionately for costs of handling and construction of range facilities. The latter might include a cabin for herders, pastures, drift fences, and improvement of watering places. Stock was returned to each owner in the fall and each handled his own marketing and winter care. Also corporations were formed in which each individual held shares in proportion to the number of animals turned in to the corporation. Corporation brands and marks were used. The corporation handled all phases of management at all times. These "Co-ops" — both types are still in operation — set the general pattern for the later organization of hundreds of local livestock

associations, on or near the national forests, whose members were users of national forest ranges.

The "partido" system of operation applied primarily around the Spanish-American "placitas" in northern New Mexico. There were two major variations. Some large flock masters "put out" all or a portion of their flocks on shares to individuals, called "partidarios," for a period, usually of five years. The partidarios agreed to return to the owner annually a percentage of the sheep and wool and at the expiration of the agreement period agreed to turn back to the owner the same number of sheep originally obtained from him. Also mercantile concerns furnishing supplies to sheep raisers became owners of company flocks which they operated under the partido system. Prominent among such concerns in New Mexico were Gross-Kelley, the Bond Companies and Louis B. Ilfeldt and Company.

Other organizations reached great size, with operations regional in scope. Some mercantile concerns, starting as suppliers of livestock raisers, became owners of company herds, or widely interested as partners or share holders in from one to several livestock outfits. Babbitt Brothers, of Flagstaff, Arizona, well known in the Southwest, accumulated interests in many separate outfits ranging, in the aggregate, tens of thousands of sheep and thousands of cattle on northern and central Arizona forests. They were very cooperative in their extensive dealing with the Forest Service.

The Kern County Land and Livestock Company of Bakersfield, California, owned a string of ranch corporations extending from Oregon to southern Arizona and New Mexico. H. A. Jastro, bald and corpulent head of the company, managed his outfits well and was progressive and cooperative.

Miller and Lux, one of the largest and most storied outfits in the West, and best known for their cattle operations, summered thousands of sheep on the forests of the High Sierra.

The Union Land and Cattle Company, of Nevada, at the close of World War I, ran 45,000 sheep, 45,000 cattle and 5000 horses and held large national forest permits.[12]

Andrew Little, who owned around 170,000 sheep, grazed over 72,000 on the Payette, Weiser and Idaho Forests in Idaho.

Cosgriff Brothers, of Wyoming, who had parlayed a modest

beginning in sheep and stores to 125,000 or more sheep, grazed at one time over 40,000 head on the Sierra Madre Forest.[13]

The Woods Livestock Company was founded by J. D. Woods in 1890. The "empire" of the company at its height extended from what is now Minidoka, in southern Idaho, some 200 miles north to Melrose, Montana, and from Challis, Idaho, on the west, 150 miles to Yellowstone Park, on the east. The mainstay of the company was 100,000 sheep of which about 67,000 grazed annually on the Targhee Forest, in Idaho, and the Beaverhead, in Montana. Headquarters was at Spencer, Idaho, where most of the buildings were painted yellow with white trim — the favorite colors of Mrs. Woods. Spencer was the world's largest shipping point for lambs during the apogee of the company.

J. D. Woods was a developer of the West. He was interested in mining, ranching, and the improvement of the social and economic order. The company had an employee health and welfare plan long before such programs were accepted under the pressures of organized labor. Thousands of small ranchers and farmers occupied the same domain as the company, which assisted these "intruders." Many found employment with "The Company."

Frank J. Hagenbarth and Hugh C. Woods, both commonly addressed by their initials, were sons of Mrs. Woods. H. C. was noted for his common sense, day-by-day operation of the company, which pioneered in range reseeding, improved breeding, supplemental feeding on winter ranges, and the "blanket" system of herding discussed later, commonplace now, but revolutionary then.

F. J. was known nationally and internationally. He served twenty-one consecutive terms as president of the National Wool Growers Association, and one term as president of the National Live Stock Association. He assisted in formulating many of the policies governing the grazing use of public lands. After J. D. Woods died in 1913, F. J. Hagenbarth became president of the Woods Livestock Company and led its course until liquidation in 1934.

The breakup of the Woods Live Stock Company was a sad occasion. Individuals who had served the company a lifetime were now unemployed. They were forced in late age to seek new fields

of endeavor. But out of the catastrophe a new outfit was born. Dave Hagenbarth, son of F. J., established his own outfit, using some of the brands and range used by the Woods Live Stock Company.[14]

John Albert Scorup, in 1890, started, in the San Juan country of Utah, a ranch destined to become one of the largest cow outfits in America. The Scorup-Somerville Cattle Company still operates over one of the largest blocks of Federal lands in the West on the Manti-La Sal National Forest and adjacent public domain lands. Mr. Scorup, known familiarly in the early years as "Al" and later as "J.A.," managed the ranch until 1956 and remained as president until his death, October 5, 1959. His son-in-law, Milton Harve Williams, vice-president of the company, took over active management of it in 1956.

At the time Mr. Scorup started his ranch, the San Juan country was one of the most isolated and least known large areas in the United States. He was a strong supporter of the national forest system in the early years and a leader in adopting improved practices of range management, including reseeding, rotation grazing and the development of watering places, trails, drift fencing and other measures.

Mr. Scorup emphasized improved breeding of his Hereford cattle rather than increasing the size of his outfit, and he was active in stimulating his neighbors to improve their herds. He was active also in getting young people interested in raising better Herefords and donated many calves to future ranchers for that purpose. He is Utah's real cowboy in the "Cowboy Hall of Fame."[15]

The story of J. A. Scorup and his brother James and their struggles in establishing the Scorup-Somerville Cattle Company in the San Juan-Colorado Rivers Triangle is one of the great sagas of western cattle land — it could be the greatest. It is told in part in *One Man's West,* David Lavender, Doubleday, Doran and Company, Inc., publisher. It is doubtful if the complete story of such an epic could ever be assembled.

Magdalena, New Mexico, was, and still is, the center of a vast sheep and cattle empire. During the period from 1900 to the 1920's, it was reputedly the world's greatest shipping point for sheep and cattle. Big outfits operated in the surrounding

territory. Some are still operating. To name a few: Frank Hubbell ran around 35,000 sheep; Ed. Otero, 45,000 to 50,000; Solomon Luna, 80,000 — and some would say more. The V+T was the biggest cow outfit. When Means and Evans, a Texas outfit, bought the western half of the V+T's in 1917, Cole Railston, the manager, told G. W. "Dub" Evans[16] that at its peak the outfit ran 40,000 head of cattle. The GOS outfit, managed by Victor Culbertson, ran 8000 cattle on the Gila Forest, said at one time to be the largest number of cattle permitted on a national forest in a single operation.

Other large cattle "prior users" were Vail Brothers (the Empire Land and Cattle Company) and the Chiricahua Cattle Company (The Cherry-Cows) in Arizona. There were many more large outfits — both sheep and cattle.

Two men, known widely as able range managers rather than as owners should be mentioned. Frank Wallace went to work for the Hashknife outfit in West Texas in the spring of 1886. In the spring of 1887 he accompanied a shipment of cattle from the Hashknife to the Bar Cross outfit near Engle, New Mexico, and became range manager for this outfit, (the Detroit Cattle Company). A young cowboy named Cole Railston was working for the same outfit. Wallace married Cora Forbes of Dona Ana, New Mexico, February 9, 1888, and they moved to Arizona in 1889 or 1890. When he left the Bar Cross he recommended Cole Railston as manager, and the outfit prospered under Raiston, who later became manager of the V+T's and remained with that outfit until his death in 1949.

Wallace bought the remnant of the Waters Cattle Company and the Esperanza Cattle Company owned by Will C. Barnes, both near Winslow, Arizona. He sold these and became manager of the western division of the Hashknife in 1896, succeeded Burt Mossman as manager in 1899 and cleaned the outfit up and sold the remnant to Babbitt and Stiles about 1901. Cole Railston stated one time that he had had the good fortune to work as a young cowboy under two of the best range foremen in the Southwest — one of whom was Frank Wallace.[17]

These were names to conjure with then — many of them are legendary now.

The Forest Service organizational structure was also evolving

during these early years. Six western regions — then called "districts" — were established in 1908. A regional (district) forester was placed in charge of each and clothed with responsibility for, and authority to, administer all national forest activities. He was staffed with assistants called "chiefs," who were directly in charge of each major activity. Such decentralization was unique with the Forest Service.

Chiefs of grazing were all experienced westerners. Joe Campbell, from Potter's staff, was sent to Albuquerque, but was shortly succeeded by John Kerr; C. H. Adams was sent to Missoula; Howard K. O'Brien, placed at Portland, was soon succeeded by Thomas P. McKensie, who grew up in a New Zealand sheep camp and migrated to Oregon; Homer E. Fenn, a native of Idaho, at Ogden; Jesse W. Nelson, a Wyoming cowboy and one of Buffalo Bill's Show riders, at Denver; and John Hatton, a native of Iowa and the only one with forestry training, at San Francisco. "They were the type of men that guided the Forest Service through its first tempestuous years."[18]

The basic organizational structure of the Forest Service and system of controlled grazing were framed during the first four years. By 1912, grazing policies and regulations were filled in so that few major changes were needed for several years. In the meantime, aggressive application of the grazing system was in progress on the ground.

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1 Acreage and permit numbers are from Potter Papers, "The National Forests and the Livestock Industry," 1912. Additionally, national forest boundaries included over 10,000,000 acres of railroad and state grant lands used for grazing. These were intermingled with national forest lands and impractical of separate management. A system of cooperative private land permits was developed under which management was in conjunction with, and substantially the same as, that applied on national forest range.

2 Potter's Scrapbook, Article written at time of Barnes' retirement from the Forest Service, 1928.

3 Pinchot, *Breaking New Ground*, Harcourt, Brace and Co., pp. 181-82.

4 Potter was appointed associate chief of the Forest Service on January 13, 1910. When Pinchot was fired by President Taft (Ballinger-Pinchot controversy), Secretary Wilson recommended Potter for chief and held out for him until Potter returned from a field trip. Taft wanted Henry Solon Graves as chief, and Potter had Secretary Wilson withdraw his name, feeling Graves was the better qualified. Potter Papers.

5 Albert F. Potter, Address before annual convention of American National

Live Stock Association at Phoenix, Arizona, January 15, 1913.

6 The first regulatory action by the Forest Service was requirement of a clearance certificate showing sheep had been dipped at least ten days before entering a forest. Sheep scabies was prevalent throughout the West. The Bureau of Animal Industry was trying to eradicate the disease but had no police power. National forest sheep permittees then began to clamor for the dipping of non-permittee sheep so their sheep would not become re-infected after they left the forests. The Forest Service also helped eradicate Texas fever in cattle. Jesse W. Nelson, Interview. Leon F. Kneipp, Letter.

7 Potter's Scrapbook, Mimeographed copy of President Theodore Roosevelt's letter to Secretary James Wilson.

8 Potter Papers, "The National Forests and the Livestock Industry," 1912.

9 *Ibid.,* Address before the American-National Live Stock Association, Denver, Colorado, January, 1908.

10 *Loc. cit.*

11 Howard R. Foulger, Forest Service, Ogden, Utah, Memorandum, August 13, 1957.

12 Wentworth, p. 223.

13 Jesse W. Nelson, Interview.

14 Information on the Woods Live Stock Company is mostly from a memorandum by Forest Ranger Ernest H. Taylor, who worked for the company as a boy and, as most of its employees did, thought the world of those who operated it. It is confirmed by Homer E. Fenn and Chester B. Morse, first and second supervisors, respectively, of the Targhee National Forest.

15 Mrs. Veda S. Williams, Provo, Utah, Letters, June 24 and July 2, 1961.

16 G. W. Evans, Author of *Slash Ranch Hounds,* University of New Mexico Press. Letter, December 15, 1955.

17 Will C. Barnes, "Winning the Forest Range," *American Forests,* July, 1930. Potter's Scrapbook. This article states Hatton was a native of North Dakota. He was born in St. Anagar, Iowa, September 15, 1871; South Dakota State College, B. Sc., 1901; Circular Society of American Foresters, November 3, 1941, Election of Fellows. Letter, L. F. Kneipp, September 13, 1957.

V

OUT ON THE FORESTS

THE forests were the crucible for the new system of controlled grazing. The initial task was apportionment of grazing privileges between individuals and companies — called "prior users" — who were using the range at the time of its inclusion in a national forest, and adjudication of their differences and those between them and the Forest Service. The task fell primarily upon forest supervisors and rangers, bolstered after establishment of regions by regional foresters and chiefs of grazing.

Demand for range exceeded supply. So the first essential was determination of those prior users qualified for grants of grazing privileges — or "permits." Those who had used the range for three years or more before creation of a forest and who owned and resided upon ranch property dependent upon use of forest range received first consideration. The small home owner-operator topped the scale; tramp outfits were at the bottom and got what was left, if any. In addition it was necessary to determine the number of livestock each approved applicant (permittee) for privileges would be allowed to graze and to de-

lineate specific areas on the ground, called "allotments," to which his stock was assigned. The job was complicated by the character of forest range and differences in sheep and cattle operations on the open range.

A national forest might contain 750,000 to 1,000,000[1] — rarely 2,000,000 — acres of unmapped land, used for grazing by a few to several hundred outfits owning in total, and sometimes individually, thousands of cattle and tens of thousands of sheep. There were no really effective barriers to movement of livestock over the range or to separate ranges used by different owners. Use of barbed wire had become general on the Plains during the eighties — mostly for protection of homesteads from grazing by cattle and sheep.[2] Federal law, although often disregarded, prohibited fencing the public domain. Fencing for control of livestock did not penetrate extensively into the mountains until after 1910 and after provision was made for it to aid grazing management on the national forests. The range was rugged and untamed.

There is little similarity in the way sheep and cattle operations are conducted. One basic difference — that of control — had an outstanding influence upon early competition for the range and the range wars; also it was important in the apportionment of national forest grazing privileges and subsequent range administration. Albert F. Potter, in 1905, said:

> Owing to the fact that sheep are herded and cattle usually turned loose, the sheepmen have had an advantage in the use of the public grazing lands because of the fact they had their business under a better system of control. In case of lack of feed or water in any particular locality the sheepman could immediately move his stock to other and better pasture, while it was necessary for the cattleman to round up or gather his stock before any such move could be made; and this often meant an entire season's work. The result has been that, where use of the range has been unrestricted, the number of sheep has increased more rapidly in proportion than the number of cattle; and in some localities the sheepmen have taken possession of the range to the extent that it has become almost impossible for the settlers to find pasturage for their small herds of cattle.[3]

The three principal range operations with sheep are herding — including trailing between summer and winter ranges — lambing, and shearing. Organization of herding was much the same over the West. For example, in Arizona, two men usually, a herder and a camp tender, were assigned to each flock. The herder stayed with the flock at all times and was responsible for its care. The camp tender cooked, kept the water casks filled, packed the burros, and moved camp. When there was only one man to a band, he performed all these duties; and when he moved camp the packed burros grazed along with the flock. The herder and camp tender were always on foot, except that from time to time they stole a ride behind the pack saddle on a burro.

A "Caporal" had charge of two or three bands. He rode a grained horse and led a mule packed with bed-roll and barley. He searched out the better feeding areas and laid out routes of travel for his bands, hunted for strayed sheep, called "cuts," and saw that herders were provisioned. He ate with the herders, who themselves consequently ate well.

One herder to a band was more common in the North. And in the colder clime sheep wagons, well fitted as complete camps, were used in the more open country. But inaccessible mountain terrain kept wagons out of many national forest areas. Large flocks of 1200 to 2000 ewes with lambs — "wet bands" — and 2500 to 3500 or more "dry" sheep were common in the early days.

Lambing required many additional men. The large flocks were separated into small bunches and these, although kept in one general unit, were scattered out over a considerable area. Lambing time varied from South to North with the coming of green feed. It started on the desert in Arizona in January and in the foothills in February, then progressively later on the more northern ranges, ending in early June in Montana. Lambs were marketed in summer or early fall, when ewe-lamb bands were often driven to near the shipping point, the lambs separated and loaded on railroad cars, and the ewes driven back to the range.

Shearing followed lambing because it would have been rough on pregnant ewes and storm losses could be drastic on newly shorn sheep. John Nelson, a permittee on the Sitgreaves Forest in Arizona, lost over 400 shorn sheep in one night of cold rain

on the Heber-Reno Trail. Until shearing machines came along, shearing teams starting in Arizona would follow the job north to the Canadian line. Wool was taken to shipping points in "wool wagons," piled high with bales and pulled by "long-line" teams.

Sheep "rodeos" were common in the early days. Small bunches of sheep — called "cuts" — straying from their flocks on the long trails, or on the range, often were picked up in flocks of other owners. Rodeos were held — usually during the summer, but also at other seasons, when the stray sheep were separated — or "pulled" — from the bands they had joined, placed in a stray band, and later returned to their owners. Time and places for holding rodeos were arranged by a committee appointed by the woolgrowers. They might be at a dipping vat when several outfits were dipping, or at a watering place convenient to two or more outfits. Pulling might be done under supervision of a State Sheep Sanitary Board Inspector, a rodeo foreman appointed by the Association, or by a committee of owners.[4]

Sheep softly bleating as they graze, a white pyramidal herder's tent in the open or sheltered by a tree, burros, sheep dogs, and the herder standing motionless on a "rise," leaning on his staff — these are as much a part of the range scene as the enfolding mountains.

Sheep, grazing and travelling in large flocks over a great domain, would hit a range once and then pass on to other areas. Thus many ranges hit by one outfit frequently would be grazed at other times during the same season by one or more other outfits. Thus the total of proven prior use, as for example on the old Caribou Forest in Idaho, might be three times or more the most optimistic estimate of grazing capacity.

Cattle, although turned loose on the range, were more localized than sheep, even though large owners utilized great expanses of range land and several outfits might have large numbers of cattle on the same areas. They moved about over the range and grazed it with little restraint. Herds, or portions of herds, were placed on areas surrounding certain waters and held there, with varying success, by line-riders until they became "located." Some cows became so well located on year-long ranges they would spend a lifetime within a few square miles. Others, moving voluntarily with the seasons, would seek their particular "spots" on summer

and winter ranges with the instinct of a homing pigeon. But many animals were possessed of wanderlust and unadulterated cussedness. Deep, steep-walled canyons or high, precipitous ridges and escarpments might be a deterrent, but not a barrier, to a Longhorn and some of his descendants whose agility according to their admirers compared favorably with that of a Rocky Mountain goat. In spite of topographic obstructions and line-riders, they strayed long distances from their owners' ranges. They were "gathered" by the Roundup and returned to home ranges.

The Roundup[5] — the "works" or, in parts of the Southwest, the "rodeo" — in its various forms was the major open range cattle handling operation.

Spring and Fall roundups were customary. Calves were branded and strays gathered in the spring. Beef cattle were gathered in the fall. Also the calves born after, or missed during, the spring roundup were branded and some strays might be gathered. But in Arizona and New Mexico during the years when yearling steers were being shipped north for "growing out" to four and five-year-olds, only the Spring roundup might be held.

An outfit predominantly controlling one range notified all stockmen using adjoining ranges where and when its roundup would start and finish work. And adjoining stockmen in turn notified the outfit holding the roundup of the number of men ("reps") each would send to represent them. "Reps" brought their own mounts. The wagon boss was boss of the roundup. But where two or more outfits ran a lot of cattle on the same range, the owners or managers agreed on dates and methods of handling the roundup and designated one man to be captain of the round-up. Surrounding stockmen were notified and dates and rules of the roundup might be published in newspapers. Each outfit sent its wagon boss, wagons, and remuda — all meeting at the appointed time and place.

"The Wagon" was the mobile headquarters and moved with the roundup once a day, sometimes twice a day. But it seldom stayed in one place more than two days. Actually it was two wagons; the chuck wagon usually carried only food supplies, dishes and cooking equipment, a water barrel mounted

on the side of the wagon box, and a pick, shovel and axe. The upright chuck box was bolted into the rear end of the wagon box. Its cover, hinged at the bottom and with one leg hinged at the top center, let down to make a cook's work table. The bed-wagon, sometimes called the "Hooligan" wagon, carried the long ropes for corralling the remuda, an extra coil of catch rope, horse bells, horseshoes and shoeing outfits, bed rolls, and a pick, shovel and axe, strapped on the outside. And it carried some food supplies if the chuck wagon was heavily loaded. It could be the name "hooligan" wagon derived by devious course from the big loops, called "hooligans," thrown by California Mexicans with their long rawhide riatas; and perhaps it originated with a Mexican named Julian (Hoolian) who was especially skillful and threw a big loop. So anyone who threw a big loop "throwed a hooligan." Since the bed-wagon carried a good sized coil of new rope, it acquired the name. Each wagon was pulled by a four-horse team.

Arizona outfits used pack outfits instead of wagons on rough ranges, such as the Apache Indian Reservation. The "kitchen" required about six mules — but the number depended on the size of the crew — with an extra to carry meat when they killed a beef. In addition, one or two mules carried horseshoes and shoeing outfit, and each man had one mule to carry his bed.

A crew on big outfits ran around 20 to 25 men to a "wagon." That was about as many as one cook could feed. Also that many men required a large remuda. The bigger the remuda, the longer it took each man to find and catch a horse — especially after dark. So if more than 25 men were needed it was better to put on another crew and mess wagon. The cook did not have a helper except on the rare occasions when he had 30 or more men to feed temporarily; and then a cowboy — much to his disgust — might be detailed to help him.

The cook drove the mess wagon, and the "night-hawk," if there was one, drove the bed-wagon on moves — otherwise a cowboy. On the pack outfits, all hands helped catch and saddle the "kitchen" mules. But the cook and wrangler packed them when the dishes were ready, and they drove them to the next campground. Each cowboy caught and packed his own bed mule.

The big outfits, prior to 1900, raised their own saddle horses on the range. They were branded when yearlings but were not handled again until they were broken to ride at five to six years old. The bronco buster or "twister" often pursued his hazardous task alone. He was paid $5.00 to $10.00 a month over the going cowboy wage. The old practice was to give him about eight horses at a time. He would stay at a ranch or camp where there was a corral, a wild meadow pasture, and with eight or more logs too heavy for a horse to run away with.

To start, he would put a hackamore with about thirty-five feet of three-quarter inch soft twist rope on each horse and tie the end of the rope around the middle of a big log. Logs were placed far enough apart so the horses could not get tangled up. Each horse taught himself what a rope was, and what it could do. Each morning the "twister" would take one horse and ride him in the corral for about two and one-half hours, then another — riding about four a day. So each horse was ridden about two and one-half hours every other day for about two weeks. When a horse could be saddled without blindfolding or tying his feet, he was ready to be turned over to a cowboy, but it might take a "keen-setter" to ride him. Then the "twister" would start on another bunch. The "Cherry-Cow" twisters broke horses all the time except during the roundup and on the roundup they rode the worst horses. Sizer says the "Cherry-Cow" twisters were very conscientious about turning good horses over to the cowboys.

After the start of the Cheyenne Frontier Days celebration, some of the northern "busters" began making their broncs buck just for practice. First and second prize money was quite high, and they could make the better part of a year's wages — if they won. So when they began turning buckers over to the crews instead of saddle horses, many outfits laid the "twisters" off and divided the broncs among the cowboys, raising their wages $5.00 a month for the extra trouble.

The remuda for twenty to twenty-five men contained around 178 to 220 horses, a string of eight for each cowboy and an extra mount of eight; a four horse team for each wagon and an extra span in case of loss. Saddle horses were replaced with fresh ones every month or six weeks. At the beginning of the roundup and when fresh mounts were brought in, the camping area might be

covered with men struggling to saddle up, or "letting the hammer down" on a pitching bronc. But the cook was the only spectator; the cowboys were too busy to watch each other. If there were two or more wagons on the "work" each kept a separate remuda.

The wrangler herded the remuda by day and a night-hawk guarded it by night. But if the outfit did not have a night-hawk the remuda was guarded at night by a cowboy — or some outfits "hobbled out." The wrangler drove the remuda on moves. If he had a fresh bunch which was hard to handle and there was danger of getting it mixed with range horses, a cowboy might be assigned to help him.

The wagon boss or captain of the roundup, as the case might be, was in charge of the whole roundup — reps and all. But it was not proper to put reps on day herd, as they were entitled to see how the drives were made and to look through every bunch of cattle brought into the roundup or taken away from it. But if a rep did not do his part the boss could make him cut his cattle out and go home — which seldom happened. The roundup boss gave the orders, but usually in the form of requests. If, for example, he wanted a certain man to drive a certain piece of range, he would say when he got to the take-off point, "Will you drive this ridge, or canyon, and throw everything ahead, and we will throw together at such and such a place."

The day's work started — usually at 4:00 a.m. — when the remuda was brought to camp by the night-hawk or guard and placed in a rope corral. Corral ropes were stretched out "V" shape. The end of one rope might be tied to the front wheel of the bed wagon and that of another to the rear wheel. The two ropes were then stretched at an angle to form a rough "V" with the bed wagon at the apex. The loose ropes were held up by the men, or might be tied around a convenient tree — some outfits used iron pins. An overhand throw, without swinging the rope, was used in roping horses out of the remuda. In some outfits one or two good ropers caught all the horses, but in others each man caught his own mount. It depended on the ideas of the boss. But several men roping at the same time, especially if some were poor ropers, caused too much excitement and milling of the horses.

The daily drives were led by the roundup boss. Going out on the drive was called "going on circle." The area worked on one drive might be a fan-shaped drainage basin with alternating small tributaries and ridges, the main tributaries converging in a "Y" on a fairly open and reasonably level area suitable for a roundup, or "hold-up" ground, the tributaries, except at the "Y," surrounded by a prominent ridge.

The boss might start with the whole crew, dropping off a man at the head of each tributary draw or gulch and on each ridge all around the whole drainage — if he had enough men. When he had completed the circle, he would stop at the hold-up ground. As the men were dropped off they were told how they would work — to watch for the others and come down more or less abreast. Or the boss might divide the crew, selecting a man to place them on one side while he took the rest of the crew around the other side. Then the two leaders would meet and drive down the middle of the area. It depended on the ideas of the boss. The first men dropped off held up their drives on the roundup ground and were joined by the others as the drives came down until they were all in.

The number of drives made in a day depended on topography, brush, timber, or open range — and the boss. But one a day was the average for the spring roundup for an outfit running mostly cows on fairly open and level range with lots of cattle and where long circles were the rule. The crew would start out about 4:00 a.m.; the roundup would be thrown together about 11:00 a.m.; and it might have 300 to 400 calves to brand, which would take the afternoon. An outfit running mostly steers with few cows and calves might be rounded up by 10:00 o'clock and have the herd worked by noon. Then they ate and went on circle again by 1:00 p.m., were rounded up by 5:00 o'clock, and had the herd worked by 7:00 o'clock. In rough, broken country with high ridges three or four "pockets" might be driven in one day.

The first job, after the roundup was thrown together, was branding calves. The boss would ask one of the best ropers, "Will you catch the calves?" and ask some old hand if he would keep the tally. The next job was cutting out from the herd the animals to be held. The roundup boss would tell each rep, or owner, in turn when he could start cutting and which side of the herd to

start his cut on. Those with the most cattle cut first. When the cutting was finished, the cuts were taken to the day herd; or, if there were two or more wagon crews, each held a separate herd. ("She stuff" and steers were commonly held in separate day herds on the Fall beef roundup.) The rest of the cattle were usually turned back towards the range where they had been gathered to avoid picking them up again in another day's roundup.

The first day's "cuts" started the day herd, or herds, as the case might be. They were herded by day and guarded by night. As a rule, in Colorado and Wyoming, the night was divided into four guards, the first guard going on about 8:00 p.m. and the last one coming off at 4:00 a.m. But in Arizona and New Mexico three guards were common. Two men were usually put on each guard; but if the day herd was large and there were enough men, three or more might be put on.

Keeping the remudas and day herds (of four or five "wagons") separated was not always easy. J. H. Sizer recounts one experience when four "wagons" were strung out along five miles of creek. A hard hail storm one night stampeded one remuda, which ran into another, the two into still another, and the three into two day herds and stampeded them. It took four days to round them all up, cut the gather, and get the cattle and horses back into their separate herds again.

When the guards reached the bed-ground they rode around the herd in opposite directions, so they met each other twice on each round. If a man failed to show up, the others started a search to find him. When time came to change guards one man rode to camp to wake up the relief. When the relief reached the herd the others came in — unless they were having trouble in which case they stayed until the herd quited down.

A rep stayed until the end of the roundup, or as long as he was getting enough cattle to justify his staying. Then he cut his stuff from the day herds and took it home. When he made his cut all the other reps and the wagon boss of the outfit, or his rep, had to be present to see if he cut anything that any of them claimed. Since cutting the day herd interfered with a drive on that day, reps, in order not to delay the roundup, would usually wait a few days until several could cut at the same time.

Cowboys were kept mighty busy on the Two-Bars outfit in

northwestern Colorado around 1906. The outfit ran from 15,000 to 20,000 cattle. No one knew just how many. The Two-Bars cattle ranged from Green River on the west to Elk River and Battle Creek on the east — some 100 miles — and from Bear River (now the Yampa) on the south to the Wyoming-Colorado line on the north — an area of between 3500 and 4000 square miles. They ran a breeding herd and also shipped in yearling steers from the southwest to be "grown out" to four and five year olds.

The Spring "shove up" began about April 1 at Brown's Park near Green River and moved all cattle on the Bear River slope from winter range to summer range, which included all the country on the west slope of the Continental Divide from near Fortification Creek to Elk River below Steamboat Springs. The Two Bars sent a "rep" to the Snake River Association "shove-up" which started at the old L 7 Ranch on the Little Snake and worked up the Little Snake River drainage to Slater Park. The Two Bars "rep" worked with them all the way to the Park. So the two outfits worked more or less abreast. At the same time the Keystone and Lilley Park outfits worked the south side of Bear River and the north side of White River. And the Two Bars "reps" with these outfits shoved their gather across Bear River where it was picked up by the Two Bars "shove-up."

The cowboys on this work started out in the morning riding at a long trot or lope and kept it up until hills, or the cattle ahead of them, slowed them down. It took about 30 days to work from Green River to Fortification Creek at the mouth of Little Bear River. The "shove-up" finished around May 1 to 10.

Then the Two Bars gathered a fresh remuda and went to the railroad at Rawlins or Wamsutter, Wyoming, or Wolcott, Colorado, to bring in yearling steers shipped from the Southwest. They made 25 to 30 miles a day going in and 10 to 15 miles coming back with the herd. This was a good time to use young horses on easy rides, so sometimes each cowboy took along only one gentle horse for a night horse and filled out his mount with young horses to break.

The calf roundup started about June 15 at Big Gulch or Lay Creek, depending on how the cattle had "located," and worked east over summer range, finishing at California Park in

the Bear Ears Mountains. The outside drives reached as far south as Bear River and east to Elk River. Meanwhile the Snake River Association was working the country from Big Hole to Slater Park. The calf roundup finished about August 1.

The beef roundup started about September 1 at Big Gulch and worked as on the calf roundup. But the Lazy Seven (an all steer outfit) and HX outfits worked with the Two Bars, and all held separate remudas and day herds. The Snake River Association and Figure 4 (Reverse 4) "wagons" worked up Little Snake River from Big Hole to Slater Park and all outfits finished up at California Park, cut their herds, exchanged cattle, and headed their drives for the railroad.

The Fall "shove-down" started at California Park about November 1 and all cattle were moved down to the lower country for winter. The Snake River Association and Figure 4's worked down the Little Snake River from Slater Park to Big Hole, while the Two Bars and Lazy Seven worked the Bear River slope to Lay Creek or Spring Creek, depending on how the snow storms hit the country. The "shove-down" was the reverse of the "shove-up," except that it did not work as far west. This made four "works" each year.

After the "shove-down" the crew was scattered around in line camps, two or three in a place, to keep the sheep north of the state line and to keep cattle pushed back into the hills to save feed along river bottoms for storm periods. About March 10 to 15 the horse roundup started to brand colts and gather geldings five years and older to break for the beginning of the Spring roundup — and the beginning of another year.

Most national forest range — except, for example, high tundra-like areas above timber line used by sheep and southern Arizona mountain ranges grazed by cattle — was blanketed by both sheep and cattle. Also many large sheep and cattle outfits used ranges included in two or more national forests; and, as often as not, their ranges were partly within national forests and partly on adjacent public domain, state and private lands.

Determination of numbers of stock for which each applicant was qualified to receive a permit due to prior use was a difficult chore. Available records of ownership were meager. County assessors' records did not cover all the livestock on the range, and

some owners did not report their full numbers to the Forest Service — sometimes cause for later regrets. But many outfits did not know how many cattle they owned. For the most part numbers were established on the basis of owners' claims, supplemented by whatever knowledge rangers had or could obtain locally.

Size of each allotment was basically dependent upon the grazing capacity required for the number of stock assigned to it. Delineation of allotments — sometimes delayed for a few years — required agonizing constriction in scope of country over which an owner's stock was accustomed to roam; and it could be, the man who had not turned in all his stock got "caught in his own loop." Adjustment to new conditions created great stresses and required prolonged and often passionate negotiations and much cooperative swapping and trading. Watering places in the arid regions were a vital consideration. Some outfits gave up permanent waters used for years and might receive others less desirable in return.

Sheepmen, because they could confine their sheep to specific areas, were assigned individual allotments, as were some large cattle outfits which dominantly controlled certain ranges. But many cattle allotments were assigned in common. Sheep and cattle were not segregated — except where it occurred naturally — until later, and then because of specific conditions in a few localities. And while sheep and cattle were the principal classes of livestock, owners of horses, goats, and hogs were also applicants for grazing privileges. And providing range for small-owner applicants, called "new-beginners," who were not prior users, was a further complication, although difficulties from this source did not culminate until the second decade of the century.

Adjudication of differences and apportionment of the range was an involved process. Albert F. Potter said, "the weighing of conflicting claims, the sifting of true statements from the false, the equitable apportionment of privileges, all presented questions of unusual difficulty."[6]

The times were robust and boisterous. Forest Service men had a job to do. A ranger "to the manner born" wore a gun; most owned them — often packed in the bed-rolls. A gun was integral with the times and environment. But the ranger's strongest armaments were integrity of purpose, firmness, fearlessness when

needed, and a power of persuasion engendered by a belief in the inherent rightness of a cause. The more knowing could see both sides and displayed great patience even when the going was roughest. And they made some mistakes. The manner of the work is best illustrated by a series of incidents, related largely in the words of the narrators.

Jesse W. Nelson, first Supervisor of the Sierra Madre Reserve (now a part of the Medicine Bow National Forest in Wyoming) tells of his experience. The area for years had been a dumping ground for large numbers of sheep. Parts of it were used as lambing ground and were severely overgrazed. Permits were issued in 1907 to all sheep and cattle owners who could show they had used the range for three years. These permits covered about 8000 cattle and 316,500 sheep, which was at least three times the grazing capacity, had the range been in good condition. And Nelson was confident many sheep were driven onto the Reserve in excess of those permitted. So in the spring of 1908, permittees were notified that sheep would be counted onto the Reserve.

But the sheepmen said they would not submit to the count and refused to bring their sheep to the counting corrals, meanwhile holding them on outside public domain. But after about two weeks, facing a lambing season and dry feed, they decided the Forest Service men meant business and came in for the count. The Cosgriff Brothers, who had a permit for 40,000 head, turned back ten bands before coming in. These would have amounted to about 20,000 additional, and even so they had an overcount of 2500.

Meanwhile Nelson and Potter, after a thorough inspection of the range, met with the advisory board of the Carbon County Wool Growers Association. The board strongly opposed a reduction of 50,000 sheep in the numbers allowed on the Forest. The members hammered at Nelson and Potter throughout a long day. But in the end they not only agreed to the reduction, but admitted that the range needed it. And continuing reductions were made for the next few years until the number reached 120,000 head, and range conditions improved.

Nelson says, "I certainly admired Mr. Potter's firmness and the fine way he worked with the board. It showed he not only

knew stockmen, but how to accomplish a desired objective."[7] But Nelson is modestly silent about his own contribution; and Potter said when the sheepmen and cattlemen could not agree among themselves upon a division of the range, they left it up to the Forest Service men, whose decisions were accepted with minor amendments.

Young rangers faced decisions, no doubt with foreboding, which might cost their jobs. William Anderson, a native of Kamas, Utah, became a ranger on the Uinta Forest in 1905. That year, an inspector from Washington recommended total exclusion of sheep from a badly overgrazed portion of the Forest. The sheepmen were up in arms. They had no other range. Two more inspectors were sent out to quell the uprising. But they got nowhere. Finally after two days of meetings one said to Anderson, "Bill, when you get a wire from Washington we'll be ready to go." The wire came and read, "Take charge of grazing situation at Vernal."

Next morning Anderson rode out to meet the sheepmen who had congregated at the place where the sheep went onto the Forest. They were prepared to drive on with permission, if possible — without it, if necessary. He believed the Forest Service did not intend to take the drastic course of sheep exclusion. Furthermore he felt the overgrazing was caused by lack of individual allotments and the resulting scramble for the best range. He proposed if each man, with consideration for his neighbors, would suggest the area he honestly believed should be allowed him, he, working with the group, would make individual allotments and let them go on the Forest — a proposal to which they agreed.

No maps were available. So Anderson cleared off a large space on the ground. Then each got a pointed stick and with their knowledge of the country, arguing and compromising, they drew out the allotments. Anderson lost count of the number of times the lines were brushed out and re-drawn; but finally agreement was reached and was adhered to for years.[8] Not infrequently the work, serious at the time, in retrospect had its own peculiar brand of humor.

A foreman for Levi Howe's outfit was in charge of the fall roundup in 1909, on the Custer Forest in Montana. Each day,

after the gather, he would "cut" the herd to separate the cattle for different owners; then he would have it held while Ranger Frank Sayer cut out unpermitted stock for removal from the Forest. But one day the foreman cut the herd and turned it loose, then rode off, laughing at Sayer who, of course, could not make his cut.

Sayer was a pretty rugged character and a crack shot. For illustration, at a previous time he, Supervisor Glen Smith, and a permittee, Walt Snyder, were riding the range, Sayer on a half-broken bronco. Snyder, spotting a sitting jack rabbit, said, "There's a good shot, Frank!" "Make a better one running," Frank said, with which he spurred the bronc into a bucking run through the sagebrush; and from this unstable perch, he shot the scampering dodging jack with a 30-30 rifle. Sayer bided his time.

Next day, when time came to cut the herd, Sayer rode in and started to cut the unpermitted cattle. When the foreman remonstrated, Sayer pulled his gun and said, "Now you go sit on that side hill. I'll cut first." And that night he reported the incident to Glen Smith at Ashland. Such "goings on" were intolerable. Smith decided to talk it over with Levi Howe. They called in the foreman and ranger and told them if they could not work together they could be replaced. From then on things were "plum peaceable."[9]

Occasionally an outfit, bent on intimidation, acted maliciously. Charlie Berry was forest ranger in the squatter community of Tres Piedras, New Mexico, in 1906. He had resided there for many years before he became ranger. He and the supervisor, returning from a field trip, found the home, which served also as headquarters and office, surrounded by a blanket of dust, sheep tracks, and droppings. Herders for a large outfit had thrown up a little dam in a shallow arroyo, impounded a small pool of water and had watered two bands of sheep. Berry's Spanish-American wife, who had protested vigorously, was seething. And she explained there were several more bands on the way.

Berry was puzzled. "It just doesn't figure. I've lived here for fifteen years; and they have always watered at a better place a half-mile down the arroyo."

"But you were not a ranger then," dryly observed the supervisor.

Berry destroyed the dam. But in the night he heard the noises of rebuilding. Darkness and weight of numbers frustrated his vociferous warnings to stop the work.

At daybreak a band of bleating sheep, with a half dozen herders on flanks and rear, accompanied by a belligerent caporal, approached the pool. Grabbing his Winchester the ranger told the supervisor to come out and see the show. The supervisor slipped a Colt into his waist-band, grabbed a handful of cartridges, and hurried to a vantage point for observation or action. Berry, Winchester cradled in arm, walked to the pool and stopped the advancing sheep. Things were tightening up.

The caporal shouted, "Don't use that gun on those sheep!"

Berry snapped, "If I shoot anything, it won't be a sheep."

The caporal turned to the supervisor. "There's going to be trouble here. Somebody's going to get hurt. You better tell that ranger to put his gun away."

The supervisor replied, "Why should I? This is his home."

Berry, shifting his gun to both hands and raising muzzle, turned to face the caporal. "We are through talking. I'll give you one minute to get those damned sheep out of here."

Possibly ten seconds ticked slowly away. Then the caporal, with a bellow of rage, waved his arms toward camp and barked a cursing order. The herders ran between the pool and the sheep and with shouts and imprecations urged them away. The outfit was in full retreat. Such an occurrence enhanced the standing of the Forest Service in the community, some members of which had suffered similar depredations. But the Forest Service did not win always.

J. H. (Harl) Sizer was wagon boss for the Two Bars outfit in northwestern Colorado when the Routt Forest was established. That spring, Sizer, with the other cowboys, started to throw the cattle into the mountains where they had previously summered. They were met at the forest boundary by a tall, gangling forest officer with two assistants. The cowboys were told they could not put the cattle on the Forest. Sizer said they had always used that range and had no other place to go. The argument grew hot as a branding iron. The forest man said, if the cattle were put in the mountains, the outfit would be hauled into court. Sizer, after consultation with his men, threw the stock onto

the Forest. Trespass proceedings were brought by the Forest Service. But the Two Bars won the case on the grounds that the Forest was newly created and grazing privileges had not yet been allotted.[10]

Inexperienced "forest assistants," thrown into a totally unfamiliar environment, sometimes created furor. Don Solomon Luna, in the spring of 1907, was holding his sheep near the boundary of the Gila National Forest in New Mexico. He had 40,000 ewes ready to lamb on his forest allotment. The grazing season would open in a few days. But the spring had been wet and the ground was soft. A young forester, fresh from an eastern forest school, told him he could not enter the forest — his sheep trampling the wet ground and tender forage would be damaging; his job was to protect the Forest, and he intended to do it. Don Solomon pleaded with him; his ewes would soon start lambing; losses would be terrific unless he could get on the lambing grounds. But the forester was adamant. Solomon killed a team of horses driving to the nearest telegraph office, which was forty miles away. He burned the wires in a message to Pinchot. Pinchot turned the wire over to Potter. Don Solomon's sheep were soon on the lambing grounds.[11] But many of the technical "boys," as they gained experience and moved into ranger and supervisor positions, became capable range administrators.

Forest rangers — there were some renegades among them — were, at times, inconsiderate of the stockmen and got pretty rough. When transient sheep owners were enjoined from trespassing on the Teton National Forest in Wyoming, their sheep were put off on the Green River side which was rabidly anti-sheep and the scene of some extensive sheep killings. When sheepmen were similarly enjoined from grazing on the Sierra Forest, they were put off on the Owens River side — another anti-sheep section. But in the main the field men of the Forest Service preferred to work with the stockmen rather than against them. They understood the stockmen better than the foresters understood the western loggers; there was more team work and cooperation. And results of efforts to settle range matters were, at times, amazing to some individuals.

Around 1899, Guy B. Mains, son of a Wisconsin lumberman, followed the tangy fragrance of the pines to Washington State,

then to California, and in 1904 to Idaho. In October, 1905, he passed the examination for forest supervisor; and in 1907, he was assigned to the Lemhi Forest. At Mackay, the headquarters town, he shared office space with a young attorney, Chase Clark, afterwards Governor of Idaho, and at this writing a United States District Judge.

Mains, at his first meeting with the stockmen at Arco, read them a letter of instructions from his superior, saying he was to let them graze their livestock free of charge the first year and without division of the range until the forest boundaries could be established. The letter was received in dead silence. There had been some sheep-cattle wars in the locality. The group had divided — cattlemen on one side of the hall, sheepmen on the other — most of them wearing guns, a situation not soothing to the young Supervisor's nervous system. Finally one cattleman arose and stated that the cattlemen had petitioned for establishment of the Forest; when Mr. Pinchot had visited them the previous summer, he assured them the range would be divided between sheep and cattle. Mains tried to explain that he did not see how it could be done right there because of deep snow on the range and his own unfamiliarity with the country. They insisted it must be. So they appointed a committee of three sheepmen and three cattlemen to make the attempt.

Mains met with the committee that evening in the hotel dining room. He had only a poor one-quarter inch scale map; most of the country was unsurveyed. They started drawing lines through public domain lands outside the Forest. Mains told them he had no authority to enforce their decisions on the public domain. They informed him if he took care of their Forest allotments they would see that their decisions were carried out on ranges off the Forest. By two o'clock the next morning, after much argument, erasures, and re-drawing of lines with stubby pencils, range division was set up over the entire area. As the meeting ended, a giant, bearded Texan, who had brought his cattle to Idaho in 1882 and settled in the Little Lost River Valley, shook his head mournfully and said, "To think I should ever live to see the day when I would sit down with a sheepman and divide up my range with him." Then, turning to Mains, "Young fellow, how did you do it?"

Not infrequently, the struggle to control range use brought mutual respect and understanding between men. Theodore Shoemaker in 1914, became supervisor of the Pike National Forest in Colorado. He describes the situation and some of his experiences in an unpublished article, "The Roundup." I quote portions, paraphrase, and otherwise utilize his description.

> This district was one of the hot-beds of antagonism against the Forest Service and all its works. The livestock owners in this locality applied for permits and paid grazing fees on only a minor portion of their stock.

Shoemaker decided something must be done. He called a meeting for early spring at the time grazing applications would be due. When they arrived at the meeting, the stockmen did not wait to be called to order. They had marshalled their grievances; and they proceeded to air them in, at times, vitriolic language. Shoemaker sat and listened to the tirade. One of the oldest of the old timers, after delivering a blistering statement, strode from the room. "We heard the jingle of his spurs and the tap-tap of his high-heeled boots as he 'legged it' down the walk to the hitchrack."

"After about an hour a man, who had been sitting quietly at the back of the room, rose and asked to be heard. A quiet settled over the room for the first time. It was evident this man was held in respect by every one there. He said since the Forest Service men had called the meeting it was only fair to hear what they had to say. Shoemaker then spoke for the first time."

First he thanked them for coming and expressing their ideas so frankly. (Briefly, these amounted to the feeling there was no common ground to justify meeting or working together with the Forest Service.) Next, he said he could not agree there were no common problems. While they owned the cattle, the land on which they grazed belonged to all the people whose agents the Forest Service happened to be. It was an owner-tenant relationship, and he wanted it to be as friendly as possible. And the range was over-grazed, resulting in serious soil erosion. This was hurting their livestock production and the people of Denver, whose water supply was adversely affected. He thought this was

a common problem. And, finally, they were grazing more cattle than they were paying for — they knew it, and so did the Forest Service. Unless they included all the cattle they grazed on forest range in their applications, the forest supervisor would have to call for a roundup and count. It was up to them. The rangers had come prepared to take their applications. After his talk the stockmen made applications for permits, but did not increase the numbers applied for; so the results of the meeting were negligible in this respect. Thereafter, Shoemaker tried to arrange for a roundup and count. But, because of the resistance of the stockmen and other obstructions, it was three years before one was approved. The stockmen then appointed a committee to meet with the Forest Service men and work out the details.

When the roundup started there were two hostile camps: the stockmen, and the supervisor and rangers. But, as the work progressed with its constant hazards and incidents — some funny, others serious — and with the Forest Service men carrying a full share of the daily work, a camaraderie ensued. This culminated one chilly evening in November.

> We were camped in the open, around a big warming fire, holding our nightly session with the tally records and making plans for the next day, when Old Timer (the one who had bolted the first meeting) rode in to tell us the Armistice had been signed. We had been out of touch for days, and the news came as a shock. There was dead silence for a moment as if each man was giving mental expression to a prayer of thanksgiving. Then someone yelled, "Three cheers, everybody!" and the air rang with the response. Men danced about the fire, clapping each other on the back and swinging each other around wildly. It was a happy occasion; and it cemented the comradeship that had been growing up as we had gone about the business in hand.
>
> The last camp was at the Graham Ranch — the ground blanketed with six inches of snow. The final ride had ended. I sat in the little bunkhouse totalling up the individual scores. The men had retired early to the hayloft. But old Ed remained, hunched up with his pipe by the stove, evidently for a purpose. In spite of his years, he had not missed a day on the ride and had refused to be favored in any way. I had grown to admire him greatly, also to sympathize with him in his hard working, lonely

existence. He stirred, cleared his throat, and began to talk. In substance he said:

"You know I opposed this roundup; but I'm glad we made it. I didn't know I had so many cattle. We found them on parts of the range I never ride. I knew, of course, I had more than I was paying on — same as my neighbors — but I did not know I had so many more. I haven't been able to do the riding I should, or hire anyone I could depend on to do it for me. I see where I have been losing money and thinking about what I can do about it; but still I don't know the answer." He then asked what would be done about the final tally.

I told him I had no choice but to report the excess; but I would keep the interests of the stockmen in mind. And I felt sure the men higher up would give full consideration to their situation. I then complimented him on the way he had stuck to the job and done his full share of the work. He rose and hesitatingly extended his hand. We stood for a moment, hands clasped. Then he turned silently and started for the barn. Watching him as he made his way to "the hay," I thought he showed a decided lift to his usual bent posture. Just then he seemed to me to be a different man — tackling a tough job with renewed courage and a new outlook.

Senator John B. Kendrick, who came to Wyoming over the Texas cattle trails, is remembered by early day Forest Service men with kindliness and appreciation for his counsel. He knew every livestock outfit in Wyoming and southeastern Montana. He assisted Glen Smith in determining the number of cattle each applicant should be allowed to graze on the Custer Forest. His advice was of great assistance to Smith and E. N. Kavanaugh, Supervisor of the Big Horn Forest, in working out many craggy problems with stockmen. He aided the Forest Service in several ways; one is described in a following chapter. But he was not alone. Many other Senators and Congressmen have strongly supported the cause of conservation and the Forest Service.

Details of apportionment of grazing privileges were localized by forests, or parts of forests, and were concerned with local users and others interested in use of the range. Progress was being made on all western forests. The work raised many questions requiring refinement of, and additions to, the grazing regulations.

And some broad issues arose which struck at the very roots of the new system.

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1 Many original "small" forests have been combined into larger units over the years to facilitate administration.

2 For a thorough discussion of the importance of barbed wire in settlement of the plains read Walter Prescott Webb's *The Great Plains,* pp. 295-318, Houghton-Mifflin Co.

3 Potter Papers, Address before the American Forest Congress, Washington, D. C., January 4, 1905.

4 Minutes of the Arizona Wool Growers Association.

5 This description of the Roundup is mainly taken from letters of J. H. Sizer to this writer from May to September, 1957, describing operations in northwestern Colorado from 1888 to 1906 and largely pertaining to the Two Bars outfit, of which he was wagon boss about 1906. Variations for the Chiricahua Cattle Company — the "Cherry Cows" — on the Apache Indian Reservation are taken from Sizer's letters and Jess T. Fears' letter of September 24, 1957. Sizer worked for the "Cherry Cows" and other Indian Reservation outfits during 1907 to 1910. Jess T. Fears was a "twister" for the "Cherry Cows." He worked as a boy for the XIT's in Texas and later for about every big cow-outfit in Arizona, prior to joining the Forest Service in 1922 He is described by Dane Coolidge as the best type of Texas cowboy — *Texas Cowboys,* E. P. Dutton and Co. Some outfits mentioned in connection with the Two Bars "works" came into being, and others passed out, during the above period. Details of the Roundup varied with other times and places.

6 Potter Papers, "The National Forests and the Livestock Industry," 1912.

7 Jesse W. Nelson, Memorandum on his early experiences.

8 William Anderson (deceased), From an undated memorandum covering early experiences as a forest ranger. He became a forest supervisor and served through a long career.

9 Glen Smith, Interview, October, 1956.

10 James H. Sizer, Interview, November, 1955.

11 Barnes, *American Forests.*

VI

COURTS AND CONFERENCES

GRAZING control on the national forests was the most revolutionary force striking the western livestock industry since its modern beginning. It cut abruptly across a manner of living, with all its freedoms, which had evolved during the frontier era. It encountered all the variations in the western livestock industry between the borders of Canada and Mexico. In great degree it then dominated the thinking of people, of whatever status, engaged in the livestock industry. And it encountered all shades of emotions, acceptance, and resistance by stockmen, and in part the general public.

Stockmen for the most part wanted to make the new system work. For years they had been advocating some form of control of the public domain. For the little man, it offered a place on the range and a greater measure of security. For the big outfits the future was less prophetic, but not more unpredictable than in the past.

But the idea of any control was repugnant to some individuals and groups. They were hostile to, and bitterly opposed, any restrictions upon their traditional free-wheeling. Some refused to

obtain permits and grazed their stock in trespass upon forest range. And they refused to pay grazing fees for grass heretofore grazed "for free." Potter later said that trespass and grazing fees were two of the most troublesome concerns of the Forest Service in establishing grazing control.

Offenders were brought before the courts and there, among other allegations, they attacked the authority of the Secretary of Agriculture to promulgate and enforce the regulations, on the grounds that Congress had made an unconstitutional delegation of legislative power. This threatened the whole National Forest administrative system and became a matter for decision by the Supreme Court of the United States. Two cases were pivotal: "The United States *vs.* Grimaud and Carajous," and "The United States *vs.* Fred Light."[1]

Pierre Grimaud and J. P. Carajous were indicted for grazing sheep on the Sierra Forest in California without having obtained permission required by the grazing regulations. They demurred on the grounds that the Forest Reserve Act of 1897 was unconstitutional, insofar as it delegated authority to the Secretary to make rules and regulations, and made a violation thereof a penal offense. They argued that, even if the Secretary could establish regulations under which a permit was required, there was nothing in the Act to indicate that Congress had intended or authorized him to charge for the privilege of grazing sheep on the Reserve. The Court sustained the demurrers. Afterwards petitions for rehearing were granted.[2] The decision was in favor of the Government. Quoting in part from the syllabus:

> Legislative power was not unconstitutionally delegated to the Secretary of Agriculture by the provisions of the Forest Reserve Acts of June 4, 1897 and February 1, 1905, making criminal the violation of the rules and regulations covering the forest reservations, made and promulgated by him under the authority of these statutes.
>
> A regulation of the Secretary of Agriculture forbidding stock grazing on a forest reservation without securing a permit, must be regarded as within the authority conferred upon him by Congress in the Forest Reserve Acts — to make rules and regulations governing the occupancy and use, and for the preservation of the Forests, although a fee is charged for such permits, especially

in view of the provisions in the latter of the two statutes and in subsequent acts respecting the disposition of forest reservation revenues.

The Fred Light case in Colorado involved chiefly the constitutionality of the Secretary's authority and State rights. Some twenty years earlier, Light had homesteaded on the Roaring Fork Watershed. He had built a rough log cabin, and he had carried their cook stove on his back over the last mile when he and Mrs. Light started their lives together. He had dug out the pack trail, "broke out" his land for hay, built his fences and his irrigation ditches and his buildings by his individual efforts. Mrs. Light had shared the hardships and mothered a family.

His location had been selected to give him access to summer grazing lands never used before. His use of them, in his view, was the vital part of his homesteading bargain with Uncle Sam. Without such use his own property was of no value to him and without it he could not help produce the food a growing country must have. And if the Forest Service could charge him 25 cents a head per season to run his stock it could charge him $5.00, or refuse to let him run them at all. And, since it was headed by one rich immigrant (or the son of an immigrant), who never had to earn a living for himself, there was no telling what the next move might be. Light, who was president of the Grand Valley Stock Growers Association, told his story at a meeting of the Association called to protest taking out permits and payment of fees for cattle grazing on the Holy Cross Forest Reserve.

Smith Riley, head of the Forest Service inspection office at Denver, and Fred Morrell, "forest assistant" on the Holy Cross Forest, attended the meeting. Riley's attempts to state the Forest Service position only made the stockmen angrier than before. The meeting ended by all but one signing an agreement not to apply for permits and to turn their stock onto the Forest range. But not long thereafter the Forest Service received an application for a permit for 100 head of cattle from Light's son. No one knew how this happened, but Morrell and Ranger Norman Ashlock used it as a basis for obtaining two additional applications which broke the jam.[3] But Fred Light, as leader of the association and the opposition, under his code, could not back down.

In addition, some Colorado stockmen believed the Federal Government must fence its lands in accordance with state law to prevent livestock trespass. This position was supported by the Colorado Stock Growers and the American National Live Stock Associations. In order to settle the question, the Forest Service and the stockgrowers associations agreed to a suit in the Federal Courts. The Light case was selected for the test.[4]

Fred Light's ranch was outside but near the Holy Cross National Forest. He grazed some 400 to 500 head of cattle. The lands between his ranch and the Forest were public domain. But some of his cattle drifted on the Forest, where they grazed in trespass. "The United States alleged that Light 'knowingly and wrongfully' let his cattle drift from his ranch over 'other public and unoccupied land of the United States' onto the Forest Reserve, knowing that because of better forage, water, and the natural route of travel his cattle would trespass on the Forest Reserve, and he took no action to prevent such trespass.

"The defendant denied that the topography, water and forage were better on the Forest Reserve and that many of his cattle grazed thereon, although he admitted that some did. He further contended that in the future he would continue to turn his cattle out on the unreserved public land without applying for a permit to graze them on the Holy Cross Forest Reserve" and if they should drift on the Forest Reserve the complainant is without remedy so long as complainant fails to fence the Reserve as required by the laws of Colorado.

"After hearing, the Circuit Court found for the Government and entered a decree enjoining the defendent from in any manner causing, or permitting his stock to go, stray upon, or remain within the said Forest or any portion thereof."

The defendant appealed, contending in part:

> The decree is void because it in effect holds that the United States is exempt from the municipal laws of the State of Colorado relating to fences. . . . The statute conferring upon the Secretary of Agriculture the power to make rules and regulations was an unconstitutional delegation of authority to him. . . . That the rules mentioned in the bill are unreasonable and do not insure the object of forest reservation and constitute an unconstitutional

interference by the Government of the United States with fence and other statutes of the State of Colorado.[5]

After hearing the decree was affirmed. Quoting in part from the syllabus:

> Congress in the exercise of its control of the property of the United States, under the United States Constitution, Article 4, Section 3, could constitutionally enact the Act of March 3, 1891, under which forest reservations may be established on the public domain, without the consent of the State where the land lies.
>
> The United States is entitled to injunctive relief where a cattle owner who has not secured the requisite stock grazing permit from the Secretary of Agriculture turns out his cattle under circumstances which show that he expected and intended that they would graze on a forest reservation, although the Government may not have complied with any local fence laws – even assuming that such laws can apply to the United States.

Potter was intensely concerned with the Light case. He believed that state law could not govern the national forests. And he felt the sooner the question was tested and a decision rendered by the Supreme Court the better. The Grimaud and Light cases were in the courts for several years. Decision in both was delivered by Chief Justice Lamar on May 1, 1911.[6]

Following the decision of the Supreme Court, Jesse W. Nelson, Regional Chief of Grazing at Denver, the supervisor, and a ranger from the Holy Cross Forest went to see Light, who was very busy "haying." Light, who seemed to hold no animosity over losing the case, said he did not have the money to pay the grazing fees, but would make payment in September when he would sell some cattle. Nelson said there was no hurry and he might as well wait until November when his shipments would be completed. The ranger ran the mowing machine while Light discussed the case with the others.

Potter and his assistants during these years religiously attended annual meetings of national and state livestock associations to learn about and eliminate causes of friction, to discuss policies and needed additions to, and refinements in, the regulations, many of which were proposed by the associations. The situation within the associations was favorable.

Western stockmen around the turn of the century were troubled by railroad shipping rates, feeding of livestock in transsit, marketing, public land, and other problems. In 1901, western sheepmen reorganized the old National Wool Growers Association.[7] The National Live Stock Association, primarily the cattlemen's organization, had been organized in 1898, but its membership also included representatives of the packers, railroad and marketing agencies, and many sheepmen. Frank J. Hagenbarth, who later served many terms as president of the National Wool Growers, was president of the National Live Stock Association during 1904 and 1905.

But cattlemen desired an association run strictly by cattlegrowers. This split the association; and cattlemen, led out of the convention hall in 1905 by J. B. Kendrick, C. M. O'Donel, L. C. Brite, E. L. Burke and Murdo Mackenzie, organized the American Stock Growers Association. In 1906, the American combined with the National to form the American National Live Stock Association,[8] since 1952, the American National Cattlemen's Association. Annual meetings were usually held in the West — often the Woolgrowers' at Salt Lake City, the Cattlemen at Denver.

Also state associations were being strengthened and affiliated closely with their respective Nationals. Hugh and Colin Campbell, E. S. Gosney, and other very active officers of the Arizona Wool Growers Association served as vice-presidents or directors of the National Wool Growers, as did officers of other State Associations. Also the Arizona and Wyoming Wool Growers Associations maintained membership in the American-National for many years — Arizona paying dues until 1932. It was a time of vigorous, organized action by the western livestock industry, led in most part by men who for twenty-five years or more had participated in its turbulent growth.

Francis E. Warren, of Wyoming — who, when a U. S. Senator, was frequently referred to as the greatest shepherd since Abraham — was first president, 1901 to 1910, of the reorganized National Wool Growers Association. Then Idaho sheepmen held the presidency until 1934 — Fred W. Gooding from 1908 to 1911; Frank R. Gooding (former Governor of Idaho, and later a U. S. Senator) from 1911 to 1913. Frank R. Gooding started his career as a

sheep herder, studying law at night by the light of a kerosene lamp in his sheep wagon. F. J. Hagenbarth was president from 1913 to 1934. Hagenbarth, it could be, was better known and had more influence in Washington than any representative of the sheep industry before his time, or since.

A. J. Knollin was secretary from 1901 until 1903; Mortimer Levering, of Indiana, from 1903 to 1906; then western secretaries took over: George S. Walker of Wyoming, 1906 to 1911; Dr. S. W. McClure, 1911 to 1920; and Fred R. Marshall, 1920 to 1943. Dr. McClure was a great secretary of the National Wool Growers Association. He is well remembered for his promotion of lamb consumption and the "National Ram Sale." He originated *The National Woolgrower,* official publication of the association, and was active in all association affairs. Marshall was very politic in all matters and influential in promoting legislation benefitting the sheep business. Prior to becoming secretary of the association, he had worked for the Bureau of Animal Industry at the Sheep Experiment Station, Dubois, Idaho.[9]

Succession of presidents was more frequent in the American National Cattlemen's Association than in the National Wool Growers Association. Following reorganization, Murdo McKensie, who ran the huge Matador Ranch in Texas, served from 1906 to 1907 and again in 1911; H. A. Jastro, "the man with the Univac mind," from 1908 to 1910, and again from 1912 to 1914; Dwight B. Heard, of Phoenix, Arizona, from 1915 to 1916; Ike T. Pryor, San Antonio, Texas, 1917 to 1918; J. B. Kendrick, Sheridan, Wyoming, 1919 to 1921; Fred H. Bixby, Long Beach, California, 1922 to 1925; C. M. O'Donel, Bell Ranch, New Mexico, 1926; L. C. Brite, Marfa, Texas, 1927 to 1928; and Victor Culbertson, Silver City, New Mexico, 1929 to 1930.[10]

T. W. Tomlinson, secretary from 1906 to 1928, had lost an arm when in railroad work. He was an excellent business man and his judgment was highly respected by everyone.[11] He believed in the use of fact, reason and logic. His mind was keen and well-trained, and his conduct and language always that of a gentleman.[12] F. E. Mollin became executive secretary, April 1, 1929 (and served until January, 1956).

Relations between the State and the National Woolgrowers and Cattlegrowers Associations and the Forest Service were mainly friendly and cooperative.

The Executive Committee of the Arizona Wool Growers Association, although the association was then in contention with the Reclamation Service and Forest Service over winter range, passed the following resolution on February 14, 1910:

"WHEREAS, Mr. W. F. Gooding, President, and Mr. George S. Walker, Secretary, of the National Wool Growers Association, together with its Committee, have through their ability and untiring energy been largely instrumental in securing a proper protective tariff, large reductions in freight rates, warehouses for storage of wool, and friendly cooperation between the Forest Service of the United States and the Woolgrowers, and have used untiring energy with marked ability to fully protect the woolgrowers of the United States, regardless of what State or Territory interested; now, therefore, be it

RESOLVED, That a vote of thanks be hereby given to Messrs. Gooding and Walker and said Committee by the Woolgrowers of Arizona."

Stockmen, through their Association Advisory Boards, other committees and in regular meetings, proposed many refinements in the grazing regulations. Some proposals covered broad policies, others the details of handling livestock on the range. A few proposals made by the Arizona Wool Growers Association are included:

In a semi-annual meeting, July 7, 1909: "Resolved, That we recommend that the Forest Service, in granting allotments and permits on Forest Reserves, consider not only the number of stock any party has on the Forest Reserve but what stock they run upon the public lands outside of the Forest Reserves which come into range competition with smaller owners who hold allotments on Forest Reserves, and so adjust their rules and regulations as to discourage in every way possible every tendency to unjust or unfair range monopoly on the part of any person or combination of persons."

This is a notable recommendation. Policies favoring the small home builder-operator and providing for them where necessary by reductions in permits and allotments of large outfits, had brought some accusations of socialism against the Forest Service. While Arizona was not noted for exceptionally large sheep outfits, neither were they small; so they were not prejudiced one way

or the other. But the deliberations in this association are otherwise distinguished by forbearance and public consciousness.

Also, in a letter, October 31, 1910, the Advisory Board recommended: "That when a permittee sells out his stock and range rights on the Forest, whether it be in sheep, cattle or horses, and applies for a permit as a beginner, he should not be considered eligible, but this does not apply to any person who may buy out the stock, ranch, range rights and business of a person holding a permit on the Forest."

And at other times the association recommended that a "new-beginner" be required to purchase an interest in stock waters developed by other permittees on the allotment to which his stock was assigned; or otherwise provide water for them, where natural waters were inadequate. Also, the association made recommendtions, as did many others, regarding the character of ranch property, based on custom in given localities, adequate (as one of the qualifications) for receiving a grazing permit. All of these recommendations, after conference with the association, were adopted in principle by the Forest Service. A suggestion of importance by the Idaho Association is mentioned in a later chapter.

State associations were especially active during the first few years. A little later, local associations recommended many practices in connection with the details of handling stock on the range. Many of these were relayed by rangers, who also made many suggestions.

The character and importance of some situations required field examinations and conferences by Potter and his assistants. One of the more troublesome of these was reorganization of sheep grazing on, and in part exclusion of sheep from, the watersheds of the Salt River below the site of Roosevelt Reservoir and the lower reaches of the Verde River in Arizona, beginning in late 1907. Several elements in the conservation program of the Roosevelt administration converging upon the Salt River Valley area at this time influenced the action on sheep grazing.

Irrigation for the Salt River Valley was much closer than at the turn of the century when the fight against exclusion of sheep from Colorado Plateau Forests took place. Start of construction of the Roosevelt Dam was imminent in 1907. Additional dams on Salt River below the Roosevelt and on the Verde River were

in the plans when President Theodore Roosevelt, on December 30, 1907, created the Verde National Forest, an area of some 722,000 acres along the west side of the Verde River: "The creation of this new National Forest is considered necessary by the Reclamation Service for the best administration of the Reclamation Act, and the watershed has an important relation to the full development of the irrigable lands of the Salt River Valley.[13] The article mentioned that the greater part of the area was covered with a growth of brush without commercial value, but that was the only thing that conserved the water supply and protected the watershed of the Verde River from serious erosion. It further stated that the Forest Service would by no means prohibit grazing on the new Forest but would endeavor to regulate it so that the watershed of the Verde River will not be injured.

The statement that creation of the new Forest is considered necessary by the Reclamation Service is revealing. There is no reason to believe the forestry imbued designers of the National Forest system ever contemplated inclusion in it of brush lands and saguaro and cholla cactus deserts, such as those in the lower basins of the Salt and Verde Rivers. However, while the withdrawal of these lands as a National Forest might strain the imagination of foresters, it did not conflict with Pinchot's concept of conservation of natural resources in totality.

The Roosevelt administration included federal forestry and reclamation on the grand scale and was striving, following the report of the Public Domain Commission, for some form of federal control of the unappropriated public domain. Bills for this purpose were then pending in Congress but enactment as to time was uncertain. So President Roosevelt, no doubt with the approbation of Pinchot, seized upon the only vehicle then available to provide protection of the watersheds.

Following creation of the Verde Forest, the Reclamation Service proposed exclusion of sheep from it and from an area of similar scope and character on the Tonto Forest east of the Verde River and north of the Salt and an area south of Salt River – all of which was customary winter range for some 150,000 to 200,000 sheep.

The Arizona Wool Growers Association vigorously opposed the prospective loss of winter range. And at this time the associa-

tion was also embroiled in opposition to federal control of the public domain, their opposition being based upon fear of restrictions in the use of winter range. So at the winter meeting of the association at Phoenix, February 1, 1908, it "respectfully" requested elimination from the National Forest of all lands non-timbered, or not suitable for reforestation, in Yavapai, Maricopa, Navajo, Gila, Apache and Pinal counties. And a committee of two members, James Scott and C. C. Hutchinson, was appointed to go to Washington, D. C., and "remonstrate against putting more territory into Forest Reserves and see if that heretofore included, not in timber, could not be eliminated."[14] And the committee was further instructed to appear before the Public Lands Commission and oppose passage of the Burkett Bill providing for federal control of public lands.

Scott and Hutchinson, while in Washington, arranged with the Forest Service and Bureau of Reclamation for a joint examination, with sheepmen, of range conditions as a basis for determining the extent of reductions in sheep, and areas from which sheep would be excluded. The examination was made in September, 1908, by Potter and Bronson of the Forest Service, Farish of the Reclamation Service, and a committee of sheepmen. As a result, sheep were excluded from all the area concerned on the Tonto and from much of the Verde Forest, with provision reductions would continue on the Verde for three years — by which time sheep had been reduced to 61,800 head — and thereafter further reductions would depend on range conditions.

In the meantime, exclusion areas and allotments for sheep were definitely established on the ground. Then the matter fermented until 1914 when, on July 2, the Arizona Woolgrowers called a meeting "to consider the exclusion of sheep from the Lime Creek and Bloody Basin allotments, as requested of the Forest Service by the Water Users Association of Phoenix." To the woolgrowers, the Water Users Association and the Reclamation Service were one. Again a committee of two was sent to Washington.

The Reclamation Service agreed to accept the opinion of the Forest Service as to range conditions and the need for further reductions. And, in March, 1914, John Kerr, chief of grazing at Albuquerque, and Leon F. Kneipp, chief of grazing from

Washington, made an inspection. No further reductions or exclusions were made. And on July 2, 1914, the Arizona Wool Growers Association passed and forwarded to Forester Henry S. Graves and their Senators and Congressmen a resolution opposing the "elimination of certain non-timbered lands on the Forest Reserve." The resolution related specifically to the Coconino Forest, but indicates a reversal on the whole question of eliminations of lands from National Forests in Arizona. Throughout this period the Forest Service, as explained by Regional Forester A. C. Ringland to the Wool Growers Association, "acted for the Reclamation Service as controllers of the range to protect the drainage areas."

But continued grazing of cattle — without reduction in numbers — on ranges from which sheep had been excluded and reduced in number, rankled the sheepmen. In 1910, they first passed, and for several years thereafter reiterated, a resolution protesting the injustice of constant reductions in sheep and increases in numbers of cattle allowed on the Coconino National Forest and appealing for more liberal and equitable regulations in behalf of the sheep industry. This question smoldered for several years until it was combined with controversy over sheep damage to yellow pine seedlings, when the two issues resulted in an epochal redistribution of range on Colorado Plateau Forests — as related in a later chapter.

Federal control of the public domain continued to be a live issue during these years. The Burkett Bill, following the report of President Theodore Roosevelt's Public Domain Commission, was pending in Congress in 1907. E. S. Gosney, president of the Arizona Wool Growers Association, reviewed the situation for members in Bulletin No. 17, January 2 of that year. He said:

> A few years ago there was a persistent effort on the part of some of the larger stockmen and range monopolists to have Congress pass a 'Lease Law.' The bills, then and since, introduced and backed by these interests, many of which are still pending, have usually contained provisions which would be extremely disastrous to the sheep industry of Arizona and to the interests of all small stockmen — sheep, cattle, or horses — on the western ranges. The passage of some of these measures was prevented by the strenuous fight made by the sheepmen and a few associations

of small cattle owners, in which struggle this association was quite prominent.

The facts we presented showing the impracticability and injustice of the proposed lease system were denied by its advocates. We asked the President to appoint a commission to investigate and report upon the conditions in dispute, which was done three years ago. It was the concensus of opinion of the delegates to the National Livestock Convention then, that if a law could be devised which would be practical and work no hardship there would be no opposition; that there existed many valid arguments in favor of range control. The Presidents' 'Public Land Commission' have made their report and are still following the question up with investigation and inquiries from stockmen affected. Upon this report as a basis has been framed the 'Burkett Bill' now pending in Congress, which bill has been referred to and discussed by the writer on several occasions, by bulletins, newspaper articles and public addresses which you have probably all seen or heard. From the start the public sentiment of the West has steadily grown in favor of some form of range control. There is no longer any doubt, in the minds of those familiar with the facts, that some law providing for such control will be enacted by Congress in the near future. *It is only a question of what that law shall contain and when it shall take effect.*

We have heretofore referred to the 'Burkett Bill' as the least objectionable of any measure yet proposed and have suggested a number of amendments which we think would better protect the range and interests involved. Many of these suggestions we have reason to believe will be incorporated in the bill by the committee now in charge. It is well known that we have always been conservative, and advocated delay and thorough investigation and education of the people on the details of the proposed change before any such law is enacted.

Commenting on similar expressions in our address before the Woolgrowers Convention at Albuquerque, a party who has given this question very close study for several years and whose influence and opinion will have much effect in the coming Live Stock Convention writes as follows: "I feel very strongly that if Government range control is coming, as we both believe it is, then it should be put into effect while there is a stockman in the White House. What the conditions will be after the next election we, none of us, know, but we do know that if range control can be inaugurated under the eye of President Roosevelt the stockmen will have not merely a square deal but an intelligent square

deal. It seems to me of vastly more importance that this great change, which is surely on the way, should be made while Theodore Roosevelt is President, than that it should be delayed a year or two, or three, in order to move cautiously. Two years of range control under him ought to get us further ahead than ten years under any of the Presidents we have had since I can remember, because none of them knew anything about the range. I take this opportunity to make the foregoing statement with all the emphasis of which I am capable. It seems to me like throwing away an unparalleled opportunity to let anything stand in the way of getting range control in effect during the Roosevelt administration."

Gosney then asked members of the Arizona Wool Growers Association for an expression of opinion, for the benefit of delegates soon going to the annual Woolgrowers Convention to be held at Salt Lake City and the American-National at Denver; and he closed the Bulletin with: "It is a significant fact that some of the ardent advocates of the old lease law policy, so admirably adapted to range monopoly, are not enthusiastic supporters of the Burkett Bill" — neither were western woolgrowers for long.

The Arizona Wool Growers sent delegates to the annual conventions that winter and to the Public Lands Convention in Denver on June 18, 19 and 20. Then the Executive Committee for the association, in meeting December 25, 1907, requested the secretary to get up and have circulated for signatures a petition "something similar to the one from Wyoming," remonstrating against the leasing and fencing of the Public Domain proposed by the so-called Pinchot policies; and the Committee passed a resolution:

"RESOLVED, By the Arizona Wool Growers Association, that it is opposed to the leasing and fencing of the Public Domain, as proposed by the so-called Pinchot policies — as it means the destruction of the Wool Industry of Arizona; Resolved further, that we prefer conditions to remain as at present, but if some further Government control is to be had we urge it be in the form of general Blanket Permits rather than otherwise." And they resolved further to have their views presented by delegates to the coming annual conventions of the National Wool Growers at Helena, Montana, and the American-National Live Stock Asso-

ciation at Denver. The two conventions were divided in action.

A newspaper clipping (name of paper not shown) pasted in the minutes of the Arizona Wool Growers Association, date line in pencil, Phoenix, February 1, 1908, states:

> Fifty prominent members of the Arizona Wool Growers Association met for two hours in the parlor of the Hotel Adams this morning to discuss the open range question and to hear reports of delegates sent to recent stock conventions.
>
> Just now the sheepmen are locked in deadly combat with the cattle raisers over the question of federal supervision of the ranges of the west, especially with reference to the policy of President Roosevelt. The Denver convention declared in favor of federal supervision, while the convention at Helena adopted resolutions to leave the ranges just as they are now — free to the cattle and sheep raisers alike.

Opposition of western woolgrowers to federal control was based on the danger of restricting freedom of movement of their flocks. Transient outfits wanted no restrictions upon their freedom to roam at will over the range. Many resident outfits feared the blocking of customary movement of sheep between summer and winter range. Arizona woolgrowers based their opposition upon the effect of control on use of winter range on the desert where, as stated by Judge F. W. Perkins, secretary of the association, it was impossible to decide before hand what particular land or country would be available for sheep grazing, as this depends entirely upon climatic conditions which vary from year to year. In the Red Desert country of Wyoming, generally recognized as winter sheep range, control by sheepmen of some 600,000 acres of railroad grant lands gave virtual control of another 600,000 acres in alternating sections of public domain.[15] Specific conditions varied in different states. Cattle growers associations, largely seeking protection for cattlemen from transient sheep, favored federal control. And their position was upheld by Charles Mullen, president of the Arizona Cattleman's Association and T. W. Tomlinson, secretary of the American-National, in a meeting with the Arizona woolgrowers in January, 1913. And so the struggle over control of the public domain continued for twenty years or more.

But Potter, speaking of the national forests years later said that at first the stockmen were opposed to restrictions; but when they realized their problems were understood and the Forest Service was trying to help them meet the new conditions by applying the necessary restrictions with the least possible inconvenience and injury to owners of stock, there came about a gradual lessening of opposition and at last a hearty cooperation on the part of the stockmen in changing from the old system to the new. And nothing indicates more clearly the stockmen generally were satisfied with the system of regulated grazing than their vigorous protests against elimination of lands not needed or suitable for national forest purposes when the readjustment of forest boundaries began in 1910, and their efforts to have grazing lands added to the forests so the benefits of systematic grazing might be enjoyed. And he says "credit particularly for this great piece of constructive work belongs to the entire Forest Service, but perhaps more particularly to those of us directly connected with the Branch of Grazing."[16] Stockmen generally were among the best friends of the Forest Service.

Wentworth, writing of the range wars, says: "The first step leading toward order was the establishment of the Forest Service in 1905," and "The Forest Service established order that finally ended the mutual destruction and 'brought civilization to the range.' " But he goes on to say the roaming of the tramp sheepmen on the remaining public domain was not stopped until the Taylor Grazing Act was passed in 1934, a third of a century later.

Potter and his cohorts, while deeply engaged during these first few years with establishing order, also envisaged and initiated a management program to improve use and increase values of national forest range lands.

Sometimes a forest supervisor's, or ranger's, services in the adjudication of disputes between permittees fell in the category of "beyond the call of duty."

Two brothers held a two-band permit for sheep on the Boise Forest in Idaho. They were hard workers and square shooters. They used the best grazing practices and their allotment was in fine condition and getting better year by year. Then they both married. And in a year or two each wife's theme was that her brother-in-law was giving her husband a dirty deal — making him

do the menial work, staying away from home more making most of the long, hard drives to market. So finally the brothers dissolved partnership and asked Supervisor Emil Grandjean to divide their range in two one-band allotments. He tried, without success, to talk them out of it — so directed the ranger to get them together out on the range.

They rode all day without reaching agreement — every single camp site had an emotional appeal to each brother. At one camp one brother reached into a hollow tree and fished out some socks he had cached there. At another, the other showed his initials carved on a tree and almost overgrown by bark. Finally, in desperation, the ranger remembered once reading how an ancient sage had met a similar problem. He shoved the map of the two-band allotment into the hands of one brother and said, "Here, you divide this allotment just as fair and square as you know how." Then, turning to the other, he snarled, "When he had divided the range you will have the first pick. If you think one allotment is better than the other you take it!" It worked!

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1 Potter Papers, "Experiences in Forestry," 1912.

2 Forest Service, Letter, September 22, 1955.

3 Fred Morrell, Letter, October 16, 1956. Morrell was one of the lrst group of graduates of the Forest School University of Nebraska. He became regional forester at Denver and Missoula, and assistant chief of the Forest Service. In the latter position he served as chief of Civilian Conservation Corps activities for the Department of Agriculture.

4 Jesse W. Nelson, Interview, October, 1955.

5 Forest Service, Letter, September 22, 1955.

6 The Grimaud and Light cases before the Supreme Court are contained in the *United States Reports*, Vol. 220, pp. 506-38.

7 Wentworth, pp. 575-76.

8 Information on reorganization of the old National Live Stock Association is mainly from a letter of the late F. E. Mollin, former secretary of the American National Live Stock Association, who was close to the affairs of the association after 1906.

9 H. B. Embach, Secretary, Arizona Wool Growers Association, Letter, May 13, 1957. Presidents and dates they served. Comments from letters of Embach and Leon F. Kneipp.

10 Lyle Liggett, Letter, October 26, 1957. Presidents of the American National Cattlemen's Association and terms they served.

[11] Mrs. Abbie W. Keith, Secretary, Arizona Cattle Growers Association, Letter, June 1, 1957 (Tomlinson).

[12] Leon F. Kneipp, Letter.

[13] Newspaper clipping, Washington, D. C. dateline, undated and unidentified source. In minutes of Arizona Wool Growers Association.

[14] Minutes, Arizona Wool Growers Association, February 1, 1908.

[15] Leon F. Kneipp, Letter, June 3, 1957.

[16] Potter's Scrapbook, Undated article written at the time of Will C. Barnes' retirement from the Forest Service in 1928.

[17] Wentworth, p. 543.

VII

COOPERATION IN RANGE MANAGEMENT

MOUNTAIN lands, generally favored over surrounding lower lands by greater rain and snow fall, embody some of the most productive and the choicest forage areas on the Western range. But rugged topography, brush, timber and mountain fastnesses present great natural obstacles and hazards to handling livestock and forage cover to yield its potential values for livestock production and watershed services. And these had contributed to early and rapid abuse of the range. Thus range management was recognized in the beginning as an enveloping requirement to attain major purposes of national forest administration. Albert F. Potter, in 1913, stated the problem:

> One of the most complex problems connected with the administration of the national forests was that of devising a plan of management by which the forest cover and the watersheds could be adequately protected and all of the lands be restored to a normal condition of forage productivity without large per-

manent reductions in the number of stock grazed or irreparable hardship upon settlers and stockgrowers who were dependent upon forest ranges for the maintenance of their homes.[1]

And eight years earlier, in 1905, Potter had said: "Investigation of the ranges has shown that damage caused by livestock is usually due to overstocking, grazing too early in the season, or the manner in which stock is handled, all of which can be directly charged to the lack of any system of management rather than to sheep and cattle. Overstocking has undoubtedly been by far the greatest cause of range destruction and decrease in its carrying capacity."[2]

But the outlook was optimistic. There was great hope in those years that range management would cure most ills of the range. There was great promise in the awakening science of range management — with its unexplored vistas. There were still great areas of range unused because of natural prohibitions. Much of the more accessible range outside the mountains — excepting portions of California and New Mexico — had been used intensively by domestic animals for only 25 to 30 years, and much of the range for appreciably shorter periods. Range abuse was not universal. Much of it on the forests was in valleys and other accessible areas of choice feed. When not eaten into the ground and tramped out, forage plants, even though heavily grazed, retained much of their pristine vigor and were capable of reasonably quick recovery under lighter use, or with periods of rest.

As Potter states, one purpose of management was to restore overgrazed ranges without resort to heavy reductions in numbers of livestock. Most stockmen — and Potter — believed this could be done. Reductions were made where such action was the only recourse, usually on the premise that livestock so removed could be replaced for the most part when the range had recovered. But the strongest initial efforts in management were directed toward range restoration through improvement in the manner of handling livestock.

Customary handling of sheep was based largely on low costs, protection against excessive losses, and obtaining maximum weight of lambs. Range sheep were mostly Merinos or Merino strains. They are naturally gregarious and were herded close together

in the flock. Herders could keep watch over such flocks with relative ease — and with a minimum of walking; guard the flock from kills by predatory animals; and prevent individual animals and small bunches from straying and becoming lost in thick timber or mountain fastnesses, where if not found soon they would succumb to predators.

Furthermore, flocks were large and unwieldy to handle, commonly 1200 to 2000 ewes, with lambs ("wet" bands), and 2000 to 3500 or more "dry" sheep. These large and closely herded flocks were constantly moving ahead into fresh feed. Close herding and driving caused much damage to forage from close cropping and trampling.

Long use of bed grounds was another damaging practice. Some flockmasters, or herders, grazed their sheep out and back each day from semi-permanent camps placed near the center of a range area and bedded them on the same ground each night for two weeks to a month or more. Then they would move on to another location and repeat the process. Bed grounds were denuded, and surrounding range for a mile or more was grazed to the ground and trampled into dust. And the same camps and bed grounds might be used season after season. Also some sheepmen seldom visited their flocks leaving them in care of herders season long. Basques often changed this system in regions where they entered the business.

They came to the West in the eighties and nineties. Their antecedents were rooted in centuries of handling sheep in a similar environment. They usually started as herders, but soon acquired flocks of their own. Many of the far-ranging transient flocks were owned by Basques. They travelled with the sheep, camp outfit packed on burros, bobbing along in the center of the band, or perhaps in the lead. They might camp over night and move on; or, if the feed were good, stay a day or two — but never long in one place. And they forced many a sheepman to move in self-defense. For they could move through his range and eat him out before he knew what had happened. Mutton and wool were never produced more cheaply.[3] But most all herders took their sheep where the feed was best and stayed as long as possible where the herding was easiest.

The alternative for close herding and excessive driving of

sheep is "open" herding. Under this method sheep in each flock are allowed to spread out and graze about quietly with a minimum of driving and "chousing" with dogs. Then they select the forage plants they like best and leave the rest untouched. Also there is a minimum of trampling. The alternatives for excessive use of bed grounds is bedding at most for three nights in one place, and better still only one — known as the "blanket," "burro," or "bedding out" system. The Forest Service at first established six nights in one place as a maximum, then reduced it to three. But they encouraged the "bedding out" method, which according to Potter was being used of necessity by southwestern sheepmen and some of the more successful operators elsewhere, and for one he named the Woods Livestock Company.

Herders were the main objectors to the "blanket" system because it required more walking to watch over a flock scattered over three or four times as much territory as when close herded. "Cuts" could more easily slip away unnoticed, requiring more searching over rough terrain. Greater care was necessary to prevent losses from predators. There was more packing and setting up of camps. Also the trend in breeding was toward heavier, "middle-wool" mutton breeds which are more difficult to herd than Merinos. But this soon resulted in smaller, more easily handled flocks — 800 to 1000 ewes with lambs, 1200 to 1500 dry sheep — and less damage to forage. But some herders would use the method only when under the eye of the owner.

However, sheepmen, once they had adopted the system, swore by the benefits. Potter mentions many examples. He said: "On the Modoc Forest in California it is reported that out of 59 permittees all but seven are using the burro system in handling their sheep. There has been a great improvement in carrying capacity of the ranges and also in the weight of lambs. In one instance the owner informs us he believes he gained ten pounds weight on each of his lambs." And in one case in Montana, where the Forest Service desired to obtain a comparison of the new system with the old, the owner wanted to be paid a bonus for running a portion of his sheep under the old methods.

Lambing was tough on the range. Range lambing requires green feed. Sheep were crowded into the choicest meadows and swales often when green feed was first appearing in the spring

and held there until lambing was over. They ate the tender foliage as fast as it came up. The Forest Service at first limited the number of sheep that could be lambed on an area and then prohibited lambing where excessive damage occurred. But economics of sheep raising practically cured range lambing on the forests. In the north, freezing cold and storms caused heavy losses of lambs during lambing on the open range. Sheepmen began to experiment with lambing in the protection of sheds and the Forest Service initiated experiments in less damaging lambing methods on the Cochetopa Forest in Colorado. Use of sheds gradually replaced range lambing in the north.

Sheep raisers in Arizona changed from spring to fall lambing to meet demands for Easter lambs. Lambing then shifted to cultivated fields in the Salt and Gila River valleys, and to the desert. Over the years, lambing on the national forests has become an almost forgotten practice.

Cattle, turned loose, largely followed their own habits of feeding and movement over the range. And they overgrazed some areas and used others lightly, if at all. Better control of cattle on the range was essential to improvement in handling practices and forage use. Fences were a primary requirement. Said Potter: "One of the greatest drawbacks to the range cattle business has been loss from straying and the large amount of riding which must be done to prevent it. Fences were needed to keep cattle upon their natural ranges and to enable the stockmen to handle them to advantage." So the Secretary of Agriculture provided in the grazing regulations for construction of fences which "gave the stockmen [on the National Forests] a lawful method of securing one of the privileges which was most needed for the success of their business."

Drift fences serve many purposes.[4] When constructed on forest boundaries they aid in preventing natural drift of unpermitted cattle and horses onto the forest. They keep cattle within assigned allotments and prevent unassigned stock from coming in. Thus they enable segregation of breeds, improvement of breeds and strains, larger calf crops, and other benefits. Areas containing poisonous plants deadly to livestock are sequestered by fences. And among other things drift fences divide winter and summer range. This protects valuable and often limited winter forage

from summer use, and summer range from too early use in the spring. Again quoting Potter: "One of the greatest evils in the destruction of forage on summer ranges is that of driving stock in too early in the season while the feed is yet immature. Lack of range control is usually responsible for this condition." Transportation of fencing materials, usually by pack outfit, and difficulties of construction in rugged mountain terrain ran the costs per mile for a "horse high and bull strong" fence up to $400 to $500 or more, even in the early days. The amount of fencing has never kept pace with the need.

Most stockmen cooperated readily with the Forest Service in fence construction. But some cattlemen and forest rangers were opposed — and with some reason. Cattle, drifting naturally from summer to winter range, were sometimes held up by a new fence and died in a fall or winter blizzard; or they might be cut off from water and die of thirst. And some old-timers claimed fences prevented cattle from moving to areas of fresh feed following rains — a contention which was no doubt true of the Longhorn who could smell a rain twenty miles away and knew green feed would soon follow it. So opinion was divided over constructing a boundary fence along the southern boundary of the Dixie Forest in Utah — which may have been the first fence built by the stockmen and the Forest Service.

Under long custom, cattle in southern Utah in the spring had followed green grass up the mountain slopes as fast as it appeared below retreating snow lines; and with the breath of winter they drifted back to winter lowlands. When the Dixie Forest was created there was no effective means of controlling too early use or excess over permitted numbers going onto the forest. Rangers first attempted control by bushing the tails of permitted cattle as they were counted on. But the cowmen simply bushed the tails of those on the outside. And since the cows knew the way into the mountains as well as their owners they were soon on the forest; so a bushed tail meant nothing. Then the rangers sought and found a peculiar type and color of paint which was dabbed on the hip of each permitted animal as it went through the counting lane. But the cowmen had less trouble than the rangers expected in obtaining similar paint, and it was not long until every cow brute on the range had a daub of paint on its

hip. Next they tried putting a peculiar type of metal tag in the ears of permitted stock. But this raised a howl that brush on the range pulled out the tags. Beyond that, a "critter" had to be roped and thrown to be sure it was wearing a bona fide Forest Service tag. Repeated attempts to get the stockmen to control numbers of stock and seasonal use failed. All of this was completely frustrating to the forest men.

Then, in 1908, Ranger Angus Woodbury, a native of the country, began promoting the Dixie fence, an idea distinctly unpopular with some cowmen and rangers. But he was strongly supported by Rangers Raphael and Benson. After much palaver, construction was started in 1910 and completed in 1912 — with the stockmen paying part of the cost. But the fence was not a complete solution. The problem dragged along for years. A strip along the boundary had to be closed to all grazing; the grazing season on the forest was shortened fifteen days, and a few random and surprise roundup counts were helpful. However, economics favored the arguments for better management. For as early as 1911 cattle buyers in the area paid a premium for fat cattle classed as beeves coming off good ranges and owners had few "cutbacks" of poor, unacceptable animals.[5]

Stockmen also fenced "holding" pastures for cattle gathered for sale or shipment, for segregating pure bred stock from common range cattle, and for saddle horses and pack stock. Settlers were allowed to enclose limited areas to hold for winter range. Individuals granted permits to construct pastures were allowed exclusive use of them, for which they paid a small fee per acre. Potter reported that the Forest Service by the end of 1912, in cooperation with the stockmen, had constructed 650 miles of drift fence and had granted over 1500 permits for maintenance of existing fences; and had granted almost 5000 permits for pastures enclosing over 500,000 acres. The Forest Service granted free use of posts and poles and furnished wire and staples, up to available funds, for drift fences and general use pastures, and the stockmen bore the balance and greater amount of costs.

However, cattle, grazing at will within allotments, concentrated in accessible mountain valleys, meadows and open "parks" in timber — areas of choice forage which they relished. And they "hung around" watering places. So the less accessible steep slopes,

"roughs," and areas back from water supporting less delicious, but not necessarily less nutritious, forage were lightly grazed, if at all. Two principal measures were instituted to cause cattle to distribute themselves naturally and graze over all the range with a minimum of driving and handling by riders.

Salt grounds, traditionally placed close to water, were located a half mile to a mile back from water to draw cattle onto lightly used forage; and they were moved from time to time to prevent excessive use around them, which did occur to some extent. A better method, finally evolving, was to drop single blocks, or two or three blocks, of salt here and there from a pack mule — often done today from a light plane. Acceptance of the practice varied with different stockmen, forest rangers and localities. Some claimed cattle would die if they could not drink immediately after eating salt; and this may have been true when granulated salt, which an animal can eat in comparatively large amounts, was used instead of block salt, which it can only lick. Also, they said cattle, after eating or licking salt, would walk back to water before grazing, thereby losing rather than gaining weight. However, most cattlemen "threw in" with the practice when benefits became evident.

Development of additional watering places back in the "roughs" and dry parts of allotments was a major means of improving distribution of cattle. Natural flows of springs and "seeps" were increased by digging them out, sometimes by tunnelling back into the rocks from which the flows emerged, and piping the water into troughs and ponds. Even a steady trickling flow when collected will provide water for many animals. Earth dams were built to impound run-off from rain and snow. A spring "development" might cost $50.00, small dams $100 to $500.

The trend toward more compact, "beefy" breeds was a major factor in promoting more intensive handling of cattle. White faces — Herefords — were most popular; Shorthorns — Durham strains — were next; some stockmen preferred the "blacks" or Polled Angus. While Herefords and Angus were particularly good rustlers for feed, they could not thrive and travel long distances for feed and water as did the Longhorn and the motley Mexican "Chihuahua." They required greater care and good forage to realize potential economic returns.

Great areas of grasslands within national forests had never been grazed by livestock. In the northern Rockies and northwest lush mountain meadows, valleys and alpine tundra were inaccessible because of surrounding or lower lying heavy timber and rocky escarpments. These secluded areas were "opened up" by cutting trails to them through thick undergrowth, dead and down timber, and by blasting around rocky ledges. Rough bridges, usually single file, were constructed across mountain streams which, in spring and early summer when sheep were driven to the mountains, were unfordable, being swollen with torrents from snowmelt or rain.

Ranger William F. Burge, in 1915, was sent to place some 12,000 sheep on forest range near Ashnola, Washington, but found feed insufficient for this many. He decided to cut a trail for twelve miles beyond Ashnola, through heavy timber, crossing the Pasayten River in the process — prodigious labor — axing through thick undergrowth, cross-cut sawing through tangled masses of down timber, at times twice the height of a man, cant-hooking the logs out of the way. They finally emerged into open country about mid-July and moved in four bands of sheep, then discovered they were in Canada. But the herders refused to go back and finished the summer there. No international complications arose.

A few Wyoming sheep outfits in 1908 were allowed on areas above timberline along the Continental Divide in Colorado. This required diplomatic maneuvering for, even though the high areas were not grazed by cattle, all of this country was closed to sheep by the deadline. In 1910 all this high country was opened to sheep grazing. Also Jesse W. Nelson, working with sheep and cattle men, laid out a sheep driveway to Steamboat Springs, from where lambs shipped one evening could be on the market in Denver the next morning. This gave a big advantage in weight of lambs and prices received over the former desert drive of three weeks to Rawlins, Wyoming, and shipment from there to market.[6]

Large bodies of range lands in the arid regions were ungrazed due to lack of water. Others were only lightly used for short periods from "temporary" pot-holes following winter snows or summer rains. Water for dry range was furnished by construction of earth and cement dams, impounding sufficient water to "hold out" for

a year or two of drought. Such impoundments in the Southwest are called "tanks." Sometimes they were lined with clay to make the sides and bottoms impervious to water, but more often the bottoms were "puddled" by heavy trampling with sheep or cattle. Also pumping plants were installed to lift water from deep canyons; deep wells were drilled and springs and seeps searched out and water flow increased. Water was sometimes piped for miles onto dry range. Major water developments cost up to $10,000 or more, and most of these costs were borne by the stockmen.

Potter, in 1913, said over 13,000 miles of trails had been constructed in the national forests and, since 1908, 750 sources of water supply, of which 570 were reservoirs, developed by stockmen; and 800 sources of water supply developed and 380 bridges built by the Forest Service.

And, in 1914, he said complete figures were not available but in Arizona and New Mexico 65,000 acres of new range had been brought into utilization by water projects developed by the Forest Service and 420,000 acres by projects by the Forest Service in cooperation with the stockmen.[7] This was a big start, but there was much more unused range to be made available for livestock. And there were other ways to improve the use and values of the range.

Prairie dogs destroyed much forage. Their towns covered great areas. A program of eradication was worked out with the Biological Survey and was carried on until these pests were controlled. The work was financed by stockmen and the Federal Government.

Predatory animals were a great hazard to livestock in the mountains. Hundreds of thousands of dollars worth of livestock were destroyed each year by wolves, coyotes, grizzly and other bears, and mountain lions. Stockmen had been fighting the menace for years by employment of hunters and payment of bounties. At a meeting on August 10, 1905, the president of the Arizona Wool Growers Association appointed a committee of three to confer with a like committee of the Cattlemen's Association of Coconino County "and arrange, if satisfactory, for the two associations to contribute equal amounts to a fund to provide on a safe basis a proper additional bounty on lofer or timber wolves killed on the ranges occupied by members of this division of the association."

The Forest Service, at first, assisted in control of predators by supplying rangers and forest guards with ammunition and traps

and by employing hunters where depredations were especially serious. The secretary of the Arizona Wool Growers Association, July 9, 1907, was instructed to write a letter to the forester, requesting the appointment of W. G. Smith as a hunter and trapper for the Forest Service in "this part of the country."

Potter estimated, based on reports of about 27,500 dead predators actually counted, that Forest Service employees killed over 30,000 predators in the four years including and preceding 1912. Then legislation was introduced, in 1912, by Senator Catron, of New Mexico, and Representative Mondell, of Wyoming, authorizing the Secretary of Agriculture to cooperate with the states under certain conditions in the eradication of predatory animals on the national forests. A control program was set up with the Biological Survey, to which the stockmen contributed financially. Biological Survey men Stanley Young, E. A. Goldman, J. Stokley Ligon, M. E. "Mark" Musgrave and others became nationally known for their skill as hunters and trappers.

Poisonous plants caused heavy losses of livestock. Not uncommonly, up to 50 to 100 cattle, or 200 to 300 sheep would die overnight after feeding through a poisonous plant area. The Forest Service enlisted the assistance of the Bureau of Plant Industry to study and determine what plants were poisonous, the conditions under which they caused death, symptoms of affected animals, and remedies. Many of the studies were conducted at feeding stations established by the Bureau. The more dangerous areas were posted with warning signs or were fenced by the Forest Service and the stockmen so stock would be kept away from them, except at times when they could be safely grazed.

Along with other action to improve use of the range, the Forest Service cooperated with the Bureau of Animal Industry and the stockmen in control of infectious and contagious diseases of livestock. Control of sheep scabies — the most prevalent disease — progressed so well that, by 1912, Potter could say: "The fact that stock is permitted to graze upon a forest is almost a guarantee of its healthy condition."

Progress in range management so far had been based primarily on application of practical experience and the botanical knowledge of Frederick V. Coville, Dr. Green, and Clos, who obviously knew what happened to plant cover when cattle and sheep fol-

lowed the melting snow line up the slopes as the season advanced, devouring the new growth before it could store food in its roots or produce seed. And E. W. Nelson, C. Hart Merriam, and Dr. Henshaw, early chiefs of the Biological Survey, were fully aware of the detrimental effects of too early and too heavy use of the forage. But these men, with the exception of Clos, were consultants and could not devote major attention to that field. And while range restoration was a major problem of range management, it was by no means the only one.

Potter well knew from his own experiences that forage production could vary from year to year with caprices of weather, drought, unseasonably low temperatures, and "freezes," or hot, searing winds, and that production increased or decreased with cyclic precipitation. And he recorded observed effects of conservative use and overgrazing in his diaries and other papers. Both he and Coville knew that the range is never at rest, that grazing capacity has no absolute, and that forage would be the most difficult to administer of all national forest resources.

Also Potter, the administrator, and Coville, the ecologist, recognized the difficulties of managing the complex forage resource to obtain its best use by domestic livestock and for watershed cover. But there was no body of scientific knowledge as a basis for management. A single grazing allotment — particularly in the mountains, with great differences in elevation, with land character ranging from moist, deep soil valley bottoms and swales to dry, shallow soil slopes and rocky ridges, and with different exposures to sun, wind and evaporation — comprehends an intricate variety of forage species and vegetative types having wide differences in forage production, acceptance as feed by livestock, and grazing capacity.

So, in 1907, the Forest Service in cooperation with the Bureau of Plant Industry and under the general planning of Potter and Coville started organized range forage investigations. This marked the beginning of intensive range research. But some information was available to build upon.

Collection of western range plants had started with the early explorers, military expeditions and missionaries. Lewis and Clark were instructed by President Thomas Jefferson to report on the flora and fauna along their route up the Missouri River and

over the Rockies to the Pacific. Soldiers such as Fremont, Emory, Abert, Ives, Stansbury, King, and Wheeler took keen interest in the vegetation and took notes and collected specimens. Sometimes military surgeons such as Cooper, Newberry and Rothrock, or others such as Berlandier, Fendler, Gregg and Nuttal, served as expedition botanists; and their collections were sent to botanical authorities for identification. Missionaries such as Spalding and Father DeSmet made collections. Douglas and Jeffrey were sent out as collectors by British botanical and horticultural centers. The Federal Department of Agriculture and some states initiated early studies.

The Division of Botany — the fourth division — was established in the Department of Agriculture in 1868 and took a prominent part in botanical exploration of the far West. Doctor George Vasey, the first chief of the Division, served under Major John Wesley Powell in his western explorations.

The tumultuous expansion of the western livestock industry, by the eighties, together with disastrous effects of blizzards, drought and over-stocking, were attracting the thoughtful attention of those concerned about the future of the range and livestock industry. These conditions finally resulted in an appropriation in 1895 of $15,000 for grass and forage plant investigations, and organization in the Department of Agriculture of the Division of Agrostology. This division investigated and published on many current grazing problems. In 1901, the Divisions of Botany and Agrostology were absorbed in a new Bureau of Plant Industry within which the studies of forage plants, range reseeding and grazing were continued. Thus, Frederick V. Coville, of that bureau, became one of the principal early investigators of grazing troubles on the forest reserves. At the suggestion of Dr. Coville, the Carnegie Institution of Washington established the Desert Laboratory at Tucson, Arizona, in the fall of 1903, for fundamental studies of desert plants.

Several State Agricultural Experiment Stations became interested in some phases of range management in these early years. Robert H. Forbes, Director of Arizona Agricultural Experiment Station, recognized the need for range studies in correlating use of the range for grazing and as a water source. He published articles; and he recommended withdrawing an area from the

public domain near Tucson for range studies, the Santa Rita Range Reserve, first examined by Potter and Kellogg. Members of the Nevada and Washington Stations were active. And, notably, the Wyoming, Colorado, Nevada and Texas Stations made chemical analyses of a large number of range plants. Henry G. Knight, of Wyoming, was active in this field.

But the initiation of range management on the national forests with "the objective of sustained productive range on which to build a sound grazing enterprise and to provide economic family units led the Forest Service to start studies of how to increase the productivity of the range." The first studies related principally to sheep grazing — in line with the (then) prevailing idea that sheep grazing was especially damaging to the range.

James T. Jardine, a native of Idaho, graduate of Utah State College, and Arthur W. Sampson, ecology graduate of the University of Nebraska, who later obtained his doctorate from Johns-Hopkins University, were the pioneers of Forest Service open range research. The work started at Billy Meadows on the Wallowa Forest in Oregon.

Jardine, known in his cowboying days as the "Mormon Kid," studied the habits and effects on forage of sheep grazing naturally without herding in coyote proof pastures. His findings substantiated and provided the technical basis for the "blanket system" of management on the national forests. And he developed a system of range resource inventory, then called range reconnaissance, and later, range survey. This was a major contribution. It furnished a uniform basis for estimating open range grazing capacities. This method provided basic information for sweeping readjustments of range use described later. It was used until recent times.

Sampson made detailed studies of the growth characteristics of forage plants, density and composition of forage cover, rate of recovery from grazing under protection and periods of rest. He followed sheep as they fed and determined the relative palatability of the various species used in developing the inventory system. He made the first trials of artificial reseeding; and during 1910 and 1911, 450 widely distributed reseeding experiments were established. Early studies by Sampson and Jardine provided a basis

for a natural adjustment, as far as practicable, in use of the range, including better seasons of grazing, deferred and rotation grazing, water development and other practices.

The Forest Service set up the Office of Grazing Studies in the Branch of Grazing in Washington in 1910 and placed James Jardine in charge. In 1920, when Jardine left the Forest Service to become director of the Oregon Agricultural Experiment Station, W. Ridgely Chapline succeeded him. In 1926, Grazing Studies was transferred to, and became a division in, the Forest Service Branch of Research. Chapline continued in charge until he retired in 1952 and became chief, Conservation Section, Forestry Division, FAO, in Rome, Italy. In 1922 Sampson, then in charge of the Forest Service Experiment Station on the Manti Forest in Utah, resigned to teach Range Management at the University of California. In the years from 1907 to 1922 he had made a great contribution to scientific range management.

Following establishment of the Office of Grazing Studies in Washington, regional offices were set up in the western National Forest Regions to develop and adapt grazing practices to pressing grazing problems on the national forests. Special emphasis was placed on correlation of grazing with watershed protection and timber production. Also the regional offices helped in building up knowledge on the characteristics and values of range plants. William A. Dayton had general supervision of this work. The finest herbarium of western range plants in existence was built up in connection with it. It was through these collections that hundreds of stockmen and forest officers got their first knowledge of plant identification.

During the period from 1910 to the mid-twenties, widespread field tests were made of practices developed by the early work of Sampson and Jardine and later by Sampson working at the Ephriam Station on the Manti Forest in Utah.

The Santa Rita Range Reserve in Arizona and the Jornado Range Reserve near Las Cruces in New Mexico were transferred from the Bureau of Plant Industry to the Forest Service in 1915; and studies of cattle management were instituted with cattlemen who operated on the reserves as cooperators. Cooperative studies were also set up with the Bureau of Plant Industry. A special study of goat ranges initiated by Chapline in 1915 in New Mexico

was extended in 1917 to goat ranges in Arizona, California and Oregon. Kansas and Texas, followed by other states, began studies of pasture management on experimental areas.

The first Grazing Reconnaissance party to take the field was assembled at Flagstaff, Arizona, and worked on the Coconino National Forest during the summer of 1911. Its members were James T. Jardine, leader; A. E. Aldous, a graduate of Utah State College; Charles Fleming, University of Minnesota; A. D. Read, a graduate of Yale Forest School; and R. R. Hill, L. A. Douglas, W. Ridgely Chapline, R. E. Bodley, of the University of Nebraska.

Expanding work in range reconnaissance and grazing studies after 1911 was manned mostly by forest school graduates who had specialized in courses of study designed to fit them better for the new work in range management. Many men in these early years contributed to the continuing development of range reconnaissance and grazing studies. To name a few would slight the many.

The Bureau of Animal Industry, in 1917, transferred its range sheep breeding and improvement studies from the Wyoming Agricultural Experiment Station to its new Station at Dubois, Idaho. These studies were closely related to the range-vegetation studies and the whole program of research pertaining to range livestock. Frederick R. Marshall,[8] V. O. McWhorter (an early director of the station), and William A. Denecke, then members of the bureau, later became nationally known in the sheep industry. Damon A. Spencer and John M. Cooper, of the bureau, were prominent also in the conduct of these studies. In 1923, sheep grazing studies were started at the station in cooperation between the Forest Service and the Bureau of Animal Industry.

Congress, in 1928, passed the McSweeney-McNary Forest Research Act. This basic act "authorized experiments and investigations under the direction of the Secretary of Agriculture, among other things, to develop improved methods of management of forest or other ranges consistent with the growing of timber and the protection of watersheds at forest and range experiment stations, or elsewhere, and authorized appropriations for such work." The passage of this act marked the ending of the first period of range research and the beginning of a new epoch.[9]

Accomplishments in improvement of range conditions were

greater during the period from 1905 to 1912 than in any similar period before that time or since. Results were so auspicious that Potter, in 1913, could say with assurance: "With the assistance and cooperation of the stockmen a system of range management has been built up, under which a vegetative cover of valuable forage plants is rapidly extending over denuded lands and replacing worthless weeds. The carrying capacity of the forests is increasing each year. As shown by the forester's annual report, there were increases of over 50,000 cattle, 3800 horses, 96,000 sheep and 6000 goats last year on an area which was decreased 346,000 acres by eliminations." And he said: "The change in methods has not been arbitrarily imposed on the stockgrower, but to a large extent has been developed by him out of the fruits of his own experience. And in no instance has a change in method advocated by the Forest Service failed to justify itself by increased returns to the stockgrower."

Had it been possible to sustain anywhere near the same rate of progress for ten to fifteen years following 1912 that had been made during the seven years previously, the ranges would have escaped much punishment. But the future held unpredictable and uncontrollable events.

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1 Potter Papers, Address before the annual convention of the American-National Live Stock Association, Phoenix, Arizona, January 15, 1913.

2 Albert F. Potter, "The Practical Results of the Regulation of Grazing on the Forest Reserves," Delivered before the American Forest Congress, Washington, D. C., January 4, 1905.

3 C. E. Rachford, Interview, May, 1957.

4 "Drift fence" is a generic designation and is applicable to any fence serving any purpose and extending from "here to there" on the range. Even a fence which, together with "rim rock" barriers, encloses a pasture may be a drift fence.

5 Angus M. Woodbury, Interview, November, 1956; his diaries from 1908-1913, and copy of his 1911 grazing report to the forest supervisor, with additions supplied by Leon F. Kneipp. Woodbury was born at St. George, Utah, in 1886. He joined the Forest Service in 1908 and resigned in 1920. Before resigning, he was offered a position as forest supervisor. His Forest Service and later National Park Service experience aroused an interest in ecology. In 1928 he received his master's degree from the University of Utah and in 1931 his doctorate from the University of California. He became a member of the faculty of the University of Utah, where he is doing research and writing at the time of this publication.

6 Jesse W. Nelson, Interview, September, 1956.

7 Potter Papers, Address before the annual convention of the National Wool Growers Association, Salt Lake City, January 16, 1914.

8 Marshall made comparisons of several long wool-fine wool crosses and selected the Lincoln-Rambouillet cross to develop a new medium-wooled breed which he called the Columbia. Denecke originated the Targhee breed, a crossing of Corriedale, Columbia and Rambouillet. The name was selected from the Targhee Forest by D. A. Spencer. Targhee is a valuable breed adapted to the short-grass ranges of the plains area. W. A. Denecke, Letter, October 8, 1957.

9 Data on range research obtained mostly from *The History of Western Range Research*, prepared by the Forest Service in 1944 under the supervision of W. Ridgely Chapline and from information furnished this writer by Dr. A. W. Sampson.

VIII

TIME OF CHANGE

GRAZING administration on the national forests during the years from 1905 to 1911 had been devoted to establishing order and initial measures to improve use of the range and increase its values. The second phase, although transitional in both its beginning and closing, started about 1912 and continued to about 1920. It was a period of change.

Forage management and watershed protection received greater emphasis in range administration, much of the action being directed toward reductions in numbers of livestock allowed to graze and redistribution to relieve overgrazing. The momentum of homesteading on the national forests increased. World War I, with its demands for greater meat production, wool and leather, had sweeping and, in part, violent impacts on the livestock industry and the range. Changing physical characteristics of a countryside were locally important. Some of these forces apexed during the late 'teens. Some resulted in deep disturbances of the livestock industry generally, and for the Forest Service in particular.

Inequalities in distribution of the range at the time of original apportionment and establishment of allotments were becoming

apparent by 1912. Grazing capacities, estimated by experienced judgment of stockmen and forest officers — the only basis then available — were proving to be too optimistic. Then grazing surveys under the Jardine method began — first on forests and parts of forests where problems were most acute. The surveys provided a uniform basis for estimating grazing capacity and they substantiated overstocking and overgrazing and inequalities of distribution. Five million acres had been surveyed by the close of 1913;[1] and the work continued until 1917, then stopped temporarily when the United States entered World War I. Influence of these surveys, however, extended beyond the areas actually covered, since the reconnaissance parties were excellent training for many rangers and technicians who applied the estimating method to other areas with more or less accurate judgment.

The surveys were also too optimistic, especially for the arid ranges where reductions to relieve the range did not keep pace in all areas with progressive deterioration. These circumstances alone would have been disrupting enough. But they were accompanied by a surge of homesteaders onto the forests and a rapid increase in demand for range from them and other small landowners both on and near the forests. Some of these were just starting to raise range livestock while others wished to increase their small herds. The background of homesteading on the national forests will bear examination.

The best arable land in areas included within the boundaries of forest reserves had been homsteaded prior to creation of the reserves. But when the lands were withdrawn from the public domain for forest reserve purposes they automatically ceased to be available for additional homesteading. However, the inherent American desire to own land resulted in pressures upon Congress to open the reserves to homestead entry.

Forest Service leaders from the time the Forest Homestead Act was proposed felt it was ill-advised — that homesteading was not adaptable to national forest physiographic conditions. And they had the results of the 160-acre and other homestead acts on the High Plains to fall back upon. Much of the so-called arable land in the mountains was in isolated tracts of less than 160 acres and lay in irregular shapes in mountain valleys, meadows and "parks," and on dry uplands. Forest officers were convinced

that twenty to eighty acres with shallow top soil at elevations where the frost-free period was less than ninety days, where only bulky, low value crops could be grown, where even irrigated production was far below that on deeper soils at lower elevations, would not support a family on a satisfactory scale of living. Furthermore, homesteads would block the valley bottoms, the natural routes of travel through the massive mountains, and would upset existing livestock economy.

But Congress was insistent and continued opposition would have meant destruction to the whole national forest policy and system. Therefore, Gifford Pinchot yielded and aided in drafting what became the Act of June 11, 1906. A few years later Henry S. Graves, chief of the Forest Service, in connection with the Siuslaw Forest in Oregon, liberalized the conditions for listing homesteads for entry, as an alternative to large-scale eliminations of land from the Forest.

The Forest Service listed with the General Land Office in the Department of Interior in all over 21,000 tracts for homestead entry, aggregating around two and one-quarter million acres. The entire program under the Act of June 11, 1906, resulted in an expenditure probably in excess of $1.00 per acre for the 2,210,000 acres listed. Hundreds of listed areas were never entered; hundreds of others were entered, relinquished, and reentered and relinquished, up to as many as half a dozen times. Possibly thousands of entrymen spent from one to several years in vain efforts to make profitable farms from their entered lands. Twenty years later many patented but abandoned homesteads were re-acquired by the Forest Service through exchange at appraised values of $5.00 to $10.00 per acre; and many unentered or relinquished lands were reclassified as chiefly valuable for national forest purposes. It is doubtful as of the present if five percent of the total listed area continues to be used for farm land.[2] Homesteading on the national forests reached a peak during the second decade.

Albert F. Potter, associate forester, wrote Dr. S. W. McClure, secretary of the National Wool Growers Association December 7, 1912,[3] saying that providing range for bona fide settlers was a problem of increasing importance; for such applications, some provision should be made, as the Forest Service cannot afford

to ignore the change in economic conditions now taking place in many parts of the West; that providing range for settlers by reductions in numbers of stock grazed by old users of the forests had not always worked to the advantage of the livestock industry generally. Also it was essential that the stability and progressive development of the industry should not be disturbed by frequent and radical changes in permit allotment. Therefore, he was anxious to determine whether some other methods could be devised.

Potter said, further, there was apparently a growing feeling among permittees that purchases of permitted livestock should not receive so much consideration as the permittees from whom the stock was purchased. In support of this statement and as a suggested solution of the problem, he presented a recommendation of the Advisory Committee of the Idaho Association, made January 1, 1911, that all purchasers of outfits of established grazing permittees be subjected to a reduction of ten percent in numbers of livestock grazed. And he asked for the views of the association as to whether such a provision should be included in the Grazing Regulations.

The provision was later approved by the Arizona Wool Growers Association and presumably by others.[4]

But reductions on purchasers of permitted livestock were insufficient to provide for homesteader and other small applicants. Additional reductions were necessary in numbers grazed by large outfits. And these, together with reductions to relieve the range, and both coupled with reapportionment, touched off sweeping adjustments which went on for years. But the general revamping was not a source of great general concern or conflict between the Forest Service and the stockmen.

Provision of range for small home builders had been, since the beginning, a recognized principle of Forest Service administration. Management was making headway. There were still great areas of range, the use of which could be increased by water developments and other measures. Prices were pretty good and stockmen had money to spend for range improvement and the Forest Service had some funds for the purpose. Research was being extended to more regions and variety of conditions. There were many local disputes over range lines, watering places and

location of fences; but in the main, large stockmen who were absorbing the brunt of the change recognized its inevitability and were amenable to it.

The adjustments required hundreds of meetings with livestock associations, advisory boards, individuals and groups; and weeks of range riding, looking out new allotment lines, agreeing on redistribution of watering places; deciding on location of fence lines, and other matters. The general activity brought an increase in small local livestock associations, from around ninety in 1911 to over six hundred by 1919. With all the adjustments, the period up to 1917 was one of continuing progress in range management.

Then the war brought a sharp increase in demand for all meat products, wool and leather. Ranges were combed with patriotic zeal for opportunities to increase numbers of livestock; and numbers were increased with recognition that in some places capacities were being pushed to the limit — in fact they were often exceeded. And war prices for beans and livestock gave many homesteaders and other small landowners their first opportunity to get into production of range livestock. War increases in numbers of livestock alone would have placed a heavy burden on the range. But they were coupled, on many forests, with cattle then being grazed in trespass.

Since administration began, cattle trespass had been a problem, especially on rough, brushy mountain ranges, characteristic of Great Basin and Southwestern Forests. Here the salubrious climate allows yearlong use of many ranges and there is no seasonal movement of cattle on and off many forests, which provided opportunity for counts. On such ranges it is readily conceded that even the owner could estimate his numbers only within a reasonable margin for error. But all permittees knew when they had substantially more than they were permitted to graze. Even with good intentions there were in the aggregate considerable numbers grazed in excess of permits. And there was an appreciable amount of trespass on the basis that it was fair game to beat the government — if you could get away with it.

Aggressive action was being taken before the war to determine the number of cattle using the range. And this step had a number of aspects. For one thing, to the extent the range was grazed in trespass — even though innocent — the government was

being deprived of grazing fees. Also the trespasser on common use ranges was getting the benefit of grass for which other permittees were paying. And overgrazing on some ranges was due to trespassing stock, the removal of which was essential to improvement of the forage. Two methods were used to determine numbers of cattle on the range.

The common method of keeping "tab" on the number of stock in individual outfits on yearlong ranges is the "check-sheet." Using this, the permittee and ranger annually sit down together and classify the herd according to age, sex, calf-brandings, losses, and sales. They thereby arrive at the total number in the herd at the beginning of the grazing season. Losses are, of course, an estimate under open range conditions. But sales can, if necessary, be checked against the local inspector's sale and shipping records. (State Livestock Sanitary Board inspectors check brands on all sales and shipments of cattle.) This method uncovered the majority of cattle grazing in excess of permitted numbers.

Roundups and range counts were required to determine numbers of trespassing stock in aggravated cases. Sometimes the owner or owners of cattle ran the roundup and sometimes the Forest Service did it. Usually a small section of the range would be covered each day, the cattle rounded up and counted, or simply counted on the range with as little disturbance to them as possible. Then the "count" would move ahead into new territory and repeat the procedure until all the range to be counted had been covered. In any case it was not a job for "boys."

The most experienced range men, who knew the territory and brands of different owners, were put in charge. And it was well to know the owners also, for some have been known to work ahead of the roundup or count and "throw" uncounted cattle off the range, or throw them behind the "work." However, this was not usual. Most stockmen would not resort to such deception. Besides the risk was great because they faced the possibility of partial or total loss of grazing privileges.

But even roundups left some question as to numbers of cattle on the range. Counting all cattle grazing in rough, brushy terrain is a practical impossibility. Thus, when the roundup ended there was always a question of how many animals had been missed; consequently, when cattle were rounded up and counted,

they were sometimes daubed with paint or their tails bobbed for identification. But these methods were not always expedient and often required rough and detrimental handling of cattle. Usually owners and Forest Service men would agree on a percentage missed based on the character of the terrain and their ideas as to the general success of the roundup.

Trespass from the standpoint of abatement and settlement was classed as either willful or innocent. But, regardless of class, each case required meticulous gathering of evidence and preparation of a report, including an estimate of damages sustained by the government. Most cases were resolved through negotiations with the trespasser. Even so, a large number involved court proceedings or appeals to the chief of the Forest Service or the Secretary of Agriculture.

The number of trespass cases in the Great Basin and southwestern regions of the Forest Service during this period exceeded the number in all other regions combined — a fact which indicates the influence of the character of the range. But with all the trespass the majority of grazing permittees applied for permits for the number of cattle they owned — or at least thought they owned.

Removal of excess stock from the ranges, under war conditions, was impossible. Pressure was for meat. Range conditions were secondary. Additional numbers were being allowed on many forests. The stock was already on the ranges. Much of it, at least in the Southwest, was placed under "temporary" permits, with the ideal of removal together with war increases when the war was over. Then, following the war, depression hit the livestock industry.

Local lending agencies, backed toward the close of the war by the War Finance Corporation, had made extensive loans throughout the industry to accelerate production. With depression, prices for livestock and wool dropped radically and many outfits found themselves in financial straits. The corporation foreclosed on, and liquidated, some; others sold heavily at forefeit prices to meet their indebtedness. Some, after forced sales, had only a portion of the number of cattle on the range for which they held regular grazing permits. Then the market stagnated and cattle, which ordinarily would have been sold and removed,

remained on the ranges, sometimes for long periods awaiting better prices. Wool piled up in warehouses. The sheepmen organized a central wool marketing service. Neither the industry nor the Forest Service could cope with such a drastic situation, but some relief measures were effected.

"Temporary" permits were issued for unsalable cattle which could not be removed from the range. A method of deferred payment of grazing fees was worked out. Grazing privileges, in cases of heavy forced sales, frequently were protected through non-use permits with the understanding that non-use numbers would be restored when and if range conditions warranted — which proved to be seldom. Some large outfits went through major reorganization of their operations; a few failed — but relatively few in view of the critical times.

The depression continued well into the twenties. A patriotic but ill-advised over-expansion in numbers of sheep and cattle had failed to accomplish the desired increase in essential livestock products.[5] The expansion and following depression placed a burden on the range from which some areas did not recover for years — others for decades.

Damage by grazing animals to Yellow Pine seedlings on Colorado Plateau forests became a major issue between livestock interests and the Forest Service in 1919. Southwestern foresters, since the creation of the Forest Service, had been concerned about the sparsity of Yellow Pine reproduction to replace mature and over-mature timber stands, except in the most favorable locations at the higher elevations. There — as the frustrated cowboy querulously explained — "the saplin's grew so thick you couldn't throw a butcher knife through them." Then World War I and acute requirements for lumber for encampments and other essential purposes accelerated the rate of logging and focused attention on the problem.

But nature took a hand in 1914 on the Sitgreaves Forest (and in 1919 on all Plateau Forests) and combined a bumper seed crop with favorable rainfall. Seedlings over great areas sprang up so thickly they resembled a good stand of grass. And they continued to thrive. For foresters it was the millennium. But supervisors and range men, who had a responsibility for both forest and range management, looked to the future with foreboding. For the abun-

dance spelled grazing troubles – and their fears were justified.

Effects of the abundant growth were two-fold. It soon reduced, and on some areas virtually eliminated, the forage. On areas of lesser abundance, severe damage by grazing animals threatened to eliminate or reduce seedlings below requirements for future stands of timber.

Sheep were first blamed for the damage soon apparent around bed-grounds and other heavily grazed areas. Some of the more alarmed foresters urged immediate and drastic reductions in permitted sheep, or removal of them to ranges less susceptible to damage. Range men held back. A storm of protest arose from the woolgrowers who, while not disclaiming some damage, vociferously argued their sheep were not wholly responsible.

Much of the tumult swirled around G. A. "Gus" Pearson, an ardent forester in charge of Forest Service research in the Southwest, whose principal place of work was the Fort Valley Experiment Station near Flagstaff. Gus was vocal in placing the blame on sheep and became anathema to the sheepmen. In retaliation they recommended abolishment of the Fort Valley Experiment Station. Sheepmen were placed on notice of possible exclusion of sheep from some cut-over lands and reductions on others.

The proposed reductions were postponed temporarily, pending the results of a special study, under the leadership of C. K. Cooperrider of the Forest Service, of the classes of stock responsible for and conditions causing damage. In addition, practically every forest officer directly concerned started his own intensive observations, as did many sheepmen. Findings of the study showed that sheep, cattle and deer all browsed on the little pines and that severe damage in large part had a direct relation to dry forage and absence of stock water.

The issue of seedling damage by sheep is the only controversy which temporarily disrupted the traditionally amicable relationships between the Arizona Wool Growers Association and the Forest Service. Its final settlement, in combination with the abatement of several other range matters which had been irritating the woolgrowers for several years, brought about a later and revolutionary change in range distribution on Colorado Plateau forests. The circumstances of this change are related in the following chapter.

The movement of forces affecting the livestock industry and the administration of grazing on the national forests during this period, including the harsh aftermath of the war, had deep origins. A still modernly youthful industry was meeting the clashes of lingering but vigorous mores of a past frontier with the onslaught of a new era. The Forest Service, as yet only partially equipped, was attempting to meet increasing demands for, and challenges of, conservation of national forest resources — a movement in itself the result of the passing abundance of the frontier.

There was much discussion then of measures needed to stabilize the livestock industry which since its cradling days — for cattle in the thorny brakes along the Nueces River in Texas and for sheep around the aged, sunbathed pueblos of the Rio Grande in New Mexico — has never known an enduring restfulness.

Conditions confronted by that industry, around the close of 1920, are indicated by the minutes of two meetings of the Arizone Wool Growers Association. A joint meeting of the Arizona Wool Growers and Cattle Growers associations, which this writer attended, was held at Flagstaff on July 7 and 8, 1920. The resolutions reflected the harsh times. The preamble to Resolution No. 1, which requested the President of the United States to declare an embargo on all further importations of cattle or beef, of wool, and of lamb and mutton, read:

> WHEREAS, never in the history of livestock in the United States have burdens been so heavy and the outlook so uncertain, and we are asked to increase production and curtail costs at a time when our cash on hand and our available lines of credit have largely been consumed in the production of wool, sheep and cattle which we cannot sell at prices which will return to us the costs of production.

Other resolutions covered: To determine if better working arrangements could be made between producers and packers; to stimulate and stabilize markets; against proposed increases in railroad freight rates; requesting the State Land Department to lend assistance and cooperation to the stockmen; abolishment of the Fort Valley Experiment Station of the Forest Service; agreement between cattle and sheep interests on movement of sheep on driveways; that no reductions be made in permitted numbers

of stock to regular users of the national forests who are citizens of the United States, until all stock permitted to aliens has been removed; and unalterable opposition to any increase in grazing fees on the national forests, desired by certain members of the Agricultural Committee of the House of Representatives.

At the following mid-winter meeting at Phoenix, February 12, 1921, the committee on resolutions reported that the resolutions adopted January 19, 1921 by the Convention of the National Wool Growers Association at Salt Lake City were as good as any they might draft, and recommended that those resolutions be adopted. The committee called special attention to the French-Capper Bill, known as the "Truth in Fabrics" bill, which provided for labeling the contents of all wool or part wool products. It tied in with another resolution endorsing the pioneering work of the Montana Wool Growers Association in manufacturing and offering to the public all American virgin wool fabrics "that will restore confidence in the trade at a price that is fair to the purchaser." In addition the resolutions, all of which were adopted, ran the gamut of ills then pulverizing the industry.

Jesse W. Nelson, inspector of grazing from Washington, D. C., has been mentioned several times in preceding pages. He was one of those who, because of background or exploits, were well known throughout the Service. He went to Wyoming from Indiana in 1896 as assistant to an engineer looking over a proposed irrigation project; became acquainted with Elwood Mead — then state engineer for Wyoming and later chief of the Bureau of Reclamation. Through Mead, he met Colonel William F. Cody (Buffalo Bill) and went to work for him. Cody had several open range stock ranches in Wyoming where he ran a few thousand horses; and he had numerous other interests. Jesse became a special assistant and man of all work for Buffalo Bill, personal companion and, on occasion, body guard for the old frontiersman. He carried out special assignments concerned with his ranches and other interests, or performed in the Wild West Show where he worked with Annie Oakley and Death Valley Scotty. He was a "smooth" rider and later was the despair of less skillful associates in the Forest Service.

An uncontrolled wild-fire on Carter Mountain south of Cody first aroused Nelson's interest in forestry. In 1897, under Cody's

instructions, he accompanied a party headed by Elwood Mead to look over possible reclamation projects — the start of the government's reclamation work in the West, resulting later in the construction of Jackson Lake Dam and the Shoshone Project. The fire was burning when they left Cody; it was still burning when they returned two months later. Jesse says, "It was this unnecessary waste of public property and utter lack of public interest that first aroused my interest in forestry." But it was not until July, 1900, that he accepted a forest guard job on the Yellowstone National Timberland Reserve — the first forest reserve established by President Benjamin Harrison under the Act of March 3, 1891. While a ranger in 1903, he built the first forest ranger's cabin in Sunlight Basin.

Nelson, after a hitch as supervisor of the Medicine Bow Forest in Wyoming, became the first chief of grazing at Denver when the western regions of the Forest Service were established. He was called to Washington when the job was offered him. But he was not sure he wanted it, as Colorado was something of a hot-bed of grazing troubles. So he told the chief there was an easier way to get rid of him — a resignation blank would do the trick. But the chief told him to go home and consult his wife. She accepted.

Elk in huntable numbers had practically disappeared in many western states by the turn of the century. But Nelson, in 1910, '11, '12 and '13, with the financial backing of cattlemen and Elks Lodges, organized the shipment of several elk plants from Yellowstone Park herds to the Black Hills of South Dakota and to many localities in Colorado. These plants were the foundation of present herds. Nelson retired from the Forest Service in 1944.[6]

Another young ranger, C. N. Woods, in charge of the district adjoining Nelson's, became known on the range. A Spanish-American War veteran, he was appointed ranger in 1902. Going up through the ranger and supervisor grades, he became inspector of grazing at Ogden (the Intermountain Region) in 1914 and regional forester in 1934. He retired in 1943.

The subsequent decade, the twenties, encompassed the climactic years in the development of the system of range management

for the national forests. The period included little that was new. But there was much consolidation and strengthening of position.

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1 Potter Papers, "Improvement in Range Condition," Annual convention of the National Wool Growers Association, Salt Lake City, January 16, 1914.

2 Leon F. Kneipp, Letter, April 11, 1957.

3 A similar letter undoubtedly was written to T. W. Tomlinson, secretary of the American National Live Stock Association, as both associations customarily were notified of impending changes in policy or regulations.

4 Years later this provision of the Grazing Regulations became the subject of major controversy between some segments of the livestock industry and the Forest Service when applied for the purpose of relieving overgrazing. But then grazing privileges on the national forests had special attractions and values recognized by both purchasers and permittees, and huge "bonuses" per head of livestock permitted were often paid to the established permittee by the purchaser.

5 *The History of Range Research.*

6 This biographical sketch of Jesse W. Nelson is from a memorandum by Nelson covering his early days in the Forest Service, given to this writer by him, and from personal interviews with Jesse and Mrs. Nelson in October, 1955 and October, 1956. Some information comes from several letters during the course of preparing the manuscript.

IX

THE CLOSING

THE summation and closing for the great developmental period of national forest grazing administration came during the twenties. An accumulation of administrative experience and results of technical investigations and studies were analyzed. Those offering the most promise were adopted as range management practices. The decade saw a definite advance toward more intensified forage and watershed management.

Wildlife activities increased rapidly during the decade. They were concerned mostly with scarcities of species. On the ground, action was directed toward restorations, *e.g.,* plants of big game, establishing refuges and sanctuaries. State wildlife protection associations and many local groups were organized. Political action was directed to establishing non-political state game commissions and tightening up of the game laws, and enforcement. Although the wildlife effort consumed much time, it will not be elaborated, since most of the range and forage problems associated with overpopulation of, and overgrazing by, big game, and providing adequate habitat, came later.

Much of the day-to-day administrative work from 1920 to 1924 was concerned with the effects of the depression on the operations of grazing permittees as described in Chapter VIII. But other problems demanded attention. Some of these were direct carry-overs from the "teens"; others had been fermenting for years, lacking ways and means to eliminate or alleviate them.

The always simmering question of grazing fees — controversial since the beginning of Forest Service management — boiled over in 1919 and 1920 and its settlement required more than ten years. The first proposal to charge a fee for grazing on the forest reserves was made by Interior Secretary Hitchcock in 1900 as a condition to rescinding the order excluding sheep grazing on Colorado Plateau Reserves. The proposed fee was three cents per sheep for the summer season. Sheepmen, fighting for survival, willingly accepted this condition and many of them sent covering checks to the secretary or the local forest supervisor. However, before the issuance of permits, law officers of the Department of Interior decided there was no legal authority for collection of fees and the money paid by the sheepmen was returned. But after the transfer of the reserves, the Secretary of Agriculture provided in the regulations for charging a reasonable fee, first fixed at five cents per sheep and twenty cents for cattle, with the provision the fees would be increased as conditions warranted.[1]

Any indication of increases in fees always met with staunch resistance from grazing permittees although fees were nominal, even with moderate increases since 1906. In fact, some stockmen operating outside the national forests, although not vocal on the matter, felt those inside were getting a substantial subsidy due to low fees. In 1916, some non-western members of Congress began agitating for higher fees and some increases were made in 1917, 1918 and 1919, when the minimum for cattle went to 60 cents per annum and the maximum to $1.50. Then, in connection with the appropriation bill for the Department of Agriculture for 1920, some members of the House Committee of Agriculture strongly criticized the Forest Service because the grazing fees were, in their judgment, far too low. Efforts were made in the form of an appropriation bill "rider" to have the Forest Service immediately increase them by 300 percent.

The Forest Service opposed such an immediate and heavy

increase because the livestock industry at the time was at the peak of an inflation period and because, in 1919, many permits were issued for a five-year period and it was considered unfair to raise fees during that period. As an alternative Colonel Wm. B. Greeley, chief of the Forest Service, proposed the Service make a comprehensive study of range values in the western states with a view to determining a fair basis for compensation and revaluing of national forest range — the new fees to be applicable in 1924, the beginning of a new five-year permit period.

A plan for the evaluation of national forest grazing fees, on the basis of rentals for similar lands under private ownership, was approved in 1920 by Secretary of Agriculture Henry Cantwell Wallace. It was commonly known as the Rachford Range Appraisal. (C. E. Rachford, who had a large hand in devising the evaluation methods, was in charge of the appraisal work.) The study, which included some 36,000 forest allotments and several million acres of privately managed range lands, was completed in 1924. But when completed it met with criticism by the livestock interests. Because of this and the existing slump in livestock prices, no increases were made in 1925 or 1926.

Greeley then recommended to Secretary of Agriculture W. M. Jardine (a brother of James T. Jardine) the selection of an outside referee before making a decision for 1927. The Secretary appointed Dan D. Casement of Kansas, a nationally known cattleman. The Casement report recommended some modifications in fees as determined by the appraisal. The final fees, average for the West, made fully effective in 1931, were 14½ cents per head per month for cattle and 4½ cents for sheep.

The range appraisal made allowances for differences in the values of forest grazing and outside areas, in view of greater natural hazards of operation, greater distances that stock had to be driven to shipping points, and other reasons. And of course these all varied in different parts of the West, as well as on individual forests. Accordingly, the appraisal report was a voluminous document — full of statistics. Casement, a big, outspoken cowman, studied the report thoroughly, visited all the national forest regions, and went over it in detail with regional grazing men and groups of stockmen. Then he had a meeting with Chief Forester Greeley and Rachford, who had accompanied him at least part

of the time. Casement asked Greeley if he had read the report. Greeley said he had gone over part, but not all, of it. Casement said, "Well, read it — . . ."[2]

In 1933 widespread demand came from the stockmen for lower fees because of the depression. After further study, the Secretary of Agriculture approved a plan for annual adjustment of fees. This plan, having many details, in essence provided the 1931 fees would be basic, but would be subject to change each year in accordance with fluctuations in livestock prices in the eleven western states; and the prices used in adjusting the fees should be determined by the Bureau of Agricultural Economics.[3]

Class grazing — use of the range by either cattle or sheep — in some areas on the national forests and on other areas by both classes of stock (called "dual use") — created problems of management. For example, in 1910, Jesse Nelson, Leon F. Kneipp and "Billy" Kreutzer, in company with a cowman and a sheepman, spent several days examining cattle ranges on the Gunnison Forest in Colorado. Cowmen were contending they did not have enough range, and outside sheepmen who wanted to get in were contending good feed was going to waste. Both were right. The cattle kept the grass pretty well mowed off — but they did not bother the weeds much, which sheep prefer. The opposite condition prevailed on about half of the old Powell Forest in Utah on the Aquarius Plateau used exclusively by sheep which ate the weeds mostly and left a fine stand of grass; on the other half, grazed exclusively by cattle, the reverse was true.

It was a common saying that sheep and cattle could get along on the same range when both belonged to the same owner. But where sheep and cattle under different ownerships used the same ranges it often resulted in overgrazing — called "double use" by the rangers. And responsibility for over-use could not be fixed. But traditionally sheep and cattle, except where separated by natural conditions, or precedent, grazed over the same ranges, and original apportionment of grazing privileges on the national forest was largely on that basis.

So segregation of sheep and cattle ranges on Colorado Plateau Forests in the early twenties was an epochal departure from general practice. It resulted from several elements in the grazing situation which had been bothering Arizona woolgrowers — some

for many years. For one thing, sheep had been generally accused of "evil effects" on the range. Sheep — not cattle — had borne the reductions and exclusions to protect the watersheds of the Verde and Salt rivers. Woolgrowers felt that reductions on sheep in general for range protection and provision for new applicants for grazing privileges were proportionately greater than upon cattle. The charge that sheep were mainly responsible for damage to yellow pine seedlings kindled the fire. Sheepmen began probing for a means to show they could use the range without damage.

The opportunity was forthcoming.

H. B. "Harry" Embach, a young man who had been associated with the sheep and cattle business for many years, in 1923 became secretary of the Arizona Wool Growers Association. He proposed the segregation of sheep and cattle ranges.

Segregation would require redistribution of the range and of watering places, many of which on the dry Plateau had been developed at great expense. It would mean construction of hundreds of miles of additional drift fences to keep cattle off sheep ranges. It would require some heart-breaking releases of range and waters, and reconciliation of financial interests in range improvements. The idea was revolutionary — and it hung fire. There was much skirmishing, but little action.

Embach continued to promote the idea aggressively. In 1925, he got the ear of Chief Forester Greeley and of C. E. Rachford, while accompanying them on a trip over Plateau Forests. At the conclusion of this trip, in a meeting with woolgrowers and Forest Service range men at Phoenix, Greeley announced segregation would be carried out on the Colorado Plateau.

The task involved a sweeping reorganization of grazing on all dual use ranges, the magnitude and intricacies of the preparatory work were sufficiently appalling; but they were out-weighed by the human elements. Preparatory work first required a complete recompilation of grazing capacities. With these for a basis, maps were prepared showing the tentative location of new allotment lines. But even the drawing of tentative lines, with consideration for individual and group interests in certain ranges, watering places, and fences — so as to cause the least possible disruption of their operations — was a painstaking task. The maps also showed location of watering places, existing and proposed

drift fences and other range facilities, timber and forage types, as well as variations in grazing capacity by relatively small areas.

Segregation naturally resulted in much smaller allotments for individual permittees or groups using cattle allotments in common. Permittees were intensely interested; and, as the work progressed, they would drop around and take a "look-see." They knew their ranges intimately, and they discussed grazing capacity section by section. As a result, changes were often made along tentative lines. Also they knew the relative "sureness" of every watering place on the range and sometimes asked that, if possible, their allotments be laid out to retain certain waters.

"Chet" Houck, one of the old time sheepmen, wanted a water-hole in deep Chevalon Canyon. He glanced over proposed lines for his allotment, then asked, "I know you have given me my share of the range, but did you leave me that water-hole in Chevalon? That's the only 'sure' water I've got!" He was told that it was on his allotment. Water was as vital as the amount of range.

Harry Embach, for the Arizona woolgrowers, participated in the job in detail. Tentative plans were taken before local cattle associations and the forest advisory boards for the Arizona Wool Growers Association, where they were scrupulously pored over and put in final form.

A general feeling of good will prevailed throughout the whole process. Most stockmen felt that segregation would alleviate many grazing ills — which it did. It could be this was the most wholehearted undertaking ever accomplished between grazing permittees and the Forest Service in Arizona. Embach says that getting Greeley to approve separation of sheep and cattle was the most outstanding thing he ever did for the sheepmen of Arizona; and as far as he can recall they have had very little trouble with the Forest Service since that time. The job would never have been successfully accomplished without the full cooperation of both cattlemen and sheepmen under, in some cases, painful losses of areas and waters they had long been accustomed to use.

Harry Embach has enjoyed a long and distinguished career. He was born in Detroit, Michigan, September 17, 1887; but he spent several years in the Greek Nation, Indian Territory. He began working for Babbitt Brothers at Flagstaff, Arizona, in 1907. Familiar with cattle operations and having a business

school education, he soon became assistant to Charles J. Babbitt, who directed the company's extensive livestock operations. In 1910, he went into the cow business for himself, but sold out in 1917 when he joined the army. Returning in 1919, he soon rejoined Babbitt Brothers, where he worked for a time as operator of one outfit and later as assistant in financing during the troublesome period after World War I.

He became secretary of the Wool Growers Association in 1923; and in 1925, still retaining this job, he was appointed one of the three public directors of the Federal Land Bank of Berkeley, California. In 1932 — when Eugene Meyer, former director of the War Finance Corporation, but at this time director of the Reconstruction Finance Corporation, called former employees and others familiar with war financing to Washington — Embach became chief examiner of the Livestock Loan Division under the late George M. Brennan. (He was granted leave of absence from the association.) But he did not stay long with Reconstruction Finance.

The late James Stone, chairman of the Federal Farm Board, borrowed him to straighten out the affairs of the National Wool Marketing Corporation, formed in 1930. It was in poor shape administratively — badly in debt; wool was unsalable; and before the Boston wool market opened in anything resembling normal the corporation had 200 million pounds of wool on hand. But with the help of the government he left it in 1935 with $1,000,000 of net assets and no debts to banks. Then he worked at various jobs, including a hitch with the Forest Service on Guayule Rubber during World War II and as land appraiser for the Army Engineers. He had considerable military service and after World War I remained active in the Reserve and the National Guard. In 1948 he was retired by the War Department as Lieutenant Colonel. Since 1945, he has been district farm mortgage manager for the Mutual Life Insurance Company for Arizona, California and parts of Nevada and New Mexico. And he still is secretary of the Arizona Wool Growers Association. He says for sentimental reasons, he does not try very hard to find a successor. But Harry Embach, Chester Wing of California and J. Byron Wilson of Wyoming served as secretaries of their respective state wool growers associations for four decades or more.

Wild horses were a tantalizing range problem from the beginning of range administration. Pinchot, during his regime, incurred disfavor with uninformed horse lovers by suggesting that the army might combine target practice with wild horse eradication. But the Forest Service did not get around to a concerted attack until about 1920.

Wild horses originated with escapees from at least semi-domestication. There were many horse outfits on the range in the early days. Most cow outfits raised their own saddle horses and there were countless cayuses on the Indian reservations. Small ranchers and farmers all had a few horses. During the Spanish-American and Boer wars, thousands of the better animals were sold to the United States and British armies. And there was a fair market for polo ponies, saddle and work animals. Thousands of horses were driven over the Boise Trail from Camas Prairies, near Grangeville, to Boise, Idaho. Grand Island, Nebraska, became a great horse market.

But later the market decreased and many horse raisers went out of business. Cow outfits began raising a better grade of saddle animals, or buying them. Many inferior — and some fairly good animals — were abandoned on the range. They accumulated by breeding and continuing escapes to the "wild bunch." They were truly wild animals, *e.g.*, two herds on the Sitgreaves Forest, known as the "white" and "yellow" bunches, were so wild they went to water only at night. As one old stockman said, "Those are the wildest wild animals I ever saw. Most wild animals will at least stop once and look back, but when wild horses start to run they never stop."

Known as "broom-tails," "whistle-tails," "willow-tails" and more opprobrious names — streaking over the range, heads high, manes and tails streaming — they looked the part of the splendid animals of western romancing. Actually, they were inbred, puny and worthless equine wraiths that stole the feed from valuable animals. They were a scourge on the range and strong sentiment developed to be rid of them. Many were rounded up and sold to chicken raisers for five dollars per head delivered at a shipping point. But this market was limited.

Some cowboys and horsemen made a part-time business of capturing them — or trying to. One method was to run them down

and rope them in the spring when weak from winter's hardships. Also they built corrals with long wings extending in "V" shape for a quarter of a mile or more from the corral gate, wings and corral being camouflaged with brush. The wild horses chased by riders into the "V" were guided into the corral. Another method was to build corrals with trap gates and bait them with salt. Captured animals were branded although many escaped or were turned back on the range. The number removed from the range by all methods did not make a dent in the total on the range. The value of good saddle horses killed or ruined in chasing the wild ones was greater than that of those captured which could be put to any useful purpose.

The wild horse problem on the forests was complicated by permitted grazing of some fairly valuable saddle, work and range horses, and others which owners turned on the range in trespass. Many of these mingled with the "wild bunch."

A general effort to clear the range of worthless horses began about 1919 under a regulation promulgated by the Secretary of Agriculture which provided that, after a period of public notice, applying to specifically designated range areas, allowing sufficient time for owners to "take up" animals they wished to keep, the remainder could be impounded by the Forest Service. Impounded animals could then be redeemed by payment of a proportionate share of the costs of the round-up including feed for impounded animals. The remainder could be sold at public auction. It did not work satisfactorily under all conditions. Many horse owners, during the notice period, gathered trespassing horses, held them in pastures until after the impounding round-up, then turned them out again. And most of the really wild horses could not be rounded up.

The next "try" resulted in a good deal of fuss and fury. Under this procedure, the Secretary, upon approval of the majority of permittees using a specific range, could issue an order closing that range — after a specified date — to the grazing of horses. The order was published in newspapers of general circulation in the area and individual permittees using the range were notified by registered letter. The closing date allowed a reasonable time to take up any horses the owners wanted. Those remaining on the

range thereafter could be disposed of by shooting. A test of such procedure in the courts was inevitable.

The test arose over the shooting of two branded horses on the Sitgreaves National Forest in Arizona. The ranger and forest guard who did the shooting were arrested and charged with the illegal killing of the animals. During a local fracas the guard was "beaten up" and had to be hospitalized temporarily. Both men were bound over to the superior court at a preliminary hearing.

The government, immediately thereafter, applied to the federal court for an injunction to restrain the county officials from interfering with the disposal of wild horses. The hearing came before the federal judge at Phoenix. The decision rested mainly on whether a branded horse could be properly classified as a wild horse. The judge granted the injunction — a horse could be wild, even though branded.

This case cleared the way for disposal of wild horses throughout the western national forests. Many horses and burros were shot; but thousands more were disposed of in various ways by their owners; and a great load was removed from the range.

Range forage management drove forward under steady pressure during the latter half of the 1920's. Range investigations and studies were now producing results over a fairly wide field. These results were incorporated into detailed "Unit Management Plans" for grazing allotments. Administrative action quickened and was directed toward obtaining on the ground application of remedial measures recommended in the plans. Differences in physiography of the national forests dictated two dominant trends in management.

The rough mountainous forests include predominantly short season range lands. Lower slopes and benches may be in general grazed for about five months. However, the actual seasons of use set up in grazing plans varied with local range conditions, local grazing situations and detailed objectives of management. Grazing seasons decrease progressively upward to high Alpine ranges which may be grazed for as few as six weeks or less. Grazing permittees who use these short season ranges graze their stock on private or public lands outside the forests at other times.

Much of the deterioration of forage and watershed cover on these mountain slopes — as pointed out in the beginning by Al-

bert F. Potter — was caused by cropping the vegetation before it had reached a stage of maturity when it could be grazed without damage, a stage called "vegetative readiness" for grazing. Thus a major part of the intensified management work on these forests was directed toward obtaining "proper seasonal use" — for the most part correction of too early grazing. The task was complicated.

Surveys were made to determine average dates to vegetative readiness by altitudinal zones. Elevational differences of 1000 feet can cause time differences of ten days to two weeks in comparable growth stages of the same forage species. Also there are variations due to differences in exposure. Furthermore, vegetative readiness varies regionally with latitudinal changes.

Zones and proper dates for grazing were incorporated into each management plan, as well as remedial practices designed to control grazing use — a great share of which was control of numbers of cattle allowed to graze and their progressive movement from zone to zone and distribution while in each zone.

Control of seasonal use frequently disrupted the operations of the grazing permittees and other stockmen on lands outside the forests. Traditionally, cattle went on to lower slopes of the mountains inside the forest as soon as these slopes "greened up," because they liked to get at the green feed and because forage on the winter ranges and supplemental feed had been used up. Entrance dates onto forest ranges, established according to vegetative readiness, were often two or three weeks later than had been customary. This caused a great measure of adjustment outside the forests to meet the gap. This in turn resulted in considerable controversy and wrangling between the Forest Service and permittees, much along the general tenor of the difficulties over the Dixie drift fence recorded in a previous chapter.

The push up in management on the forests of the Colorado Plateau and the mountain ranges of southern Arizona and New Mexico took a different trend. The great bulk of the range in this region is grazed yearlong. The mountain ranges in the national forests of southern Arizona and New Mexico are isolated by desert in which their feet rest. The gently sloping Colorado Plateau within the forests falls mostly in the Juniper-Pinon and Yellow Pine country. At the lower elevations it may include open

grass lands. An entire forest may vary not more than 2000 to 3000 feet in altitude except for a few deep canyons and a few mountains, usually volcanic cores or cones. Minimal areas of both the mountains and the plateau extend above the Yellow Pine zone.

Most of the annual precipitation, except at the higher levels where there may be a snowpack, falls between the Fourth of July and September 1. Most of the year's supply of forage is produced during this period. Spring precipitation is uncertain and forage growth may be inconsequential except in favored locations such as valleys and swales with good soil depth. The two dominant elements, then, establishing the trend of improved management, were yearlong use of the range and an annual supply of forage produced during a period of six weeks in the summer. Thus, correlation of numbers of livestock allowed to graze with yearlong grazing capacity and better distribution of livestock over the range received greatest emphasis.

Control of livestock was paramount to improving use of the forage. Control of sheep, continuously under the care of herders, was comparatively simple — as has been pointed out heretofore. But far more intensive control of cattle was required than had ever been practiced in the past. Measures for cattle control included all those previously described, *e.g.*, construction of boundary and drift fences, development of additional watering places with special regard to distribution over the range, location of salt grounds with regard to feed and water, line riding, and herding. Construction of physical improvements was very costly in the aggregate. Available funds were spread thinly over large areas. Stockmen in the Southwest contributed the biggest share of the cold cash, either through individual construction or by contributions to cooperative projects. Progress, otherwise, would have been inordinately slow in this land of low carrying capacities and lack of water. The forest Service bore a major part of construction costs in other regions.

In spite of all the handicaps, greater progress was made in obtaining better use of the forage than ever before. Even though there were many differences of opinion between stockmen and the Forest Service over grazing capacities, allotment changes, entrance dates for livestock onto forest ranges and a host of other questions, the 1920's were, in general, a period of cooperation

and good will. Progress during these years furnished a rather satisfying closing for the first 25 years of controlled grazing use of the national forests.

Yet another accomplishment, this of a sentimental nature, would add a bit of lustre and satisfaction to the closing careers of those who had initiated and largely carried through the developmental period of range management. Two of the Forest Service chiefs of grazing, several regional chiefs of grazing and numerous forest supervisors and rangers had been stockmen and cowboys during the time when the Longhorn dominated the cattle kingdom — a period for which the Longhorn became the colophon. It was in keeping that the Forest Service should be instrumental in preserving a living remnant of the breed.

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1 Potter Papers, "How the Grazing Fee Started," February 1, 1927.

2 C. E. Rachford, Interview, May, 1957.

3 Information regarding grazing fees is from the Forest Service *History of Grazing Fees,* compiled by K. D. Flock.

X

THE LONGHORNS

TEXAS Longhorns broke the trails for and founded the cattle industry on the western frontier. The characteristics and significance of this breed are told by J. Frank Dobie, its best student and chronicler, in his book *The Longhorns.*

> The Texas Longhorn made more history than any other breed of cattle the civilized world has known. As an animal in the realm of natural history, he was the peer of bison or grizzly bear. As a social factor, his influence on men was extraordinary. An economic agent in determining the character and occupation of a territory continental in its vastness, he moved elementally with drouth, grass, blizzards out of the Arctic, and wind from the south. However supplanted or however disparaged by evolving standards and generations, he will remain the bedrock on which the history of the cow country of America is founded.[1]

Yet, this heroic and symbolic animal was nearing extinction within a short twenty years following the last drives.

Disappearance of the breed savored of tragedy to Will C.

Barnes, Frank Rush, supervisor of the Wichita National Forest in Oklahoma, Senator John B. Kendrick of Wyoming, and other older generation stockmen. Barnes wrote an article, published in the *Breeder's Gazette,* November 30, 1916, in which he proposed preservation of the Longhorns along with buffalo. (A herd of the latter was established and thriving on the Forest.) But a few years prior thereto, Frank Rush had personally purchased a white longhorn steer from a passing herd and placed it in a pasture where it could be seen and photographed.

The Wichita Forest was an ideal location for a herd of specimen longhorns. The area was part of the Apache, Comanche and Kiowa Indian Reservation in old Indian Territory. The forest was established by President McKinley in 1901, when the reservation was opened to settlement. President Theodore Roosevelt made it a game preserve in 1905, dedicated to the preservation of wild animals and birds of national importance. The forest was in the heart of the range of the old southern buffalo herd. And one anonymous writer observed, "Around these three, the Indian, the Buffalo and the Longhorn, is gathered most of the romance, history and adventure of the Great Plains and the Southwest."

However, it was eleven years after Barnes' proposal that Congress authorized an expenditure of not to exceed $3000 in the Agricultural Appropriation Act for the fiscal year 1928, "for the purchase and maintenance of a herd of long-horned or Spanish breed of cattle for the Wichita National Forest in Oklahoma to the end that the present comparatively few living examples of this historic breed of cattle may be preserved from complete extinction." Senator John B. Kendrick was instrumental in obtaining the authorization.

Following the authorization, specifications as nearly as possible representative of the original Longhorn type were obtained from old-time cowmen. And in compliance with government procedure, bids were sent to fourteen individuals and firms calling for eighteen cows, three bulls and three steers. No bids were returned. It did not seem possible that such a hardy breed was so near extinction.

Bid procedure having failed, Barnes and John H. Hatton — chief of grazing for the Denver Region of the Forest Service in which the Wichita Forest was located — went to Texas personally

to search for survivors. They talked to many stockmen at Fort Worth and San Antonio. The general feeling was that their search would be unsuccessful. A few old cows might be found in the "prickly pear" country between Laredo and Brownsville, around Corpus Christi, or on the coastal plains between Houston and Beaumont. But everyone doubted if they would find bulls. Things looked pretty discouraging. But they talked Longhorns to everyone they met, including J. Frank Dobie. Texas cattlemen were interested and eager to help. Barnes and Hatton plunged into the country where the Longhorn was cradled.

At Laredo they met Farmer Jennings, Tom East and others who they had been told could help — if anyone could. But they found only a few steers, highly prized by their owners, whose age and scarcity gave them considerable notoriety. There was the "Cotulla" steer, fourteen years old, owned by Walter Sutton. They were introduced to this steer as a family pet, but he put them over the corral fence. And there was the Robert Hinnant steer near Hebbronville — light yellow, with long, wide-spreading horns, fifteen years old — they thought he must be the best steer remaining in Texas. Barnes and Hatton wanted two or three steers for exhibition animals because of their horn development. But they could not compete financially with the motion picture companies. They went on to Edinburg in the southern tip of Texas. There they met W. M. Doughty, born and raised among the Longhorns. With his assistance and knowledge of the country and the Mexican settlements, they picked up here and there, in about two weeks, ten cows and one bull which met requirements, and a bull calf born of typical Longhorn parents.

Then the two men moved into the Coastal Plains region. They were encouraged because they were told this was the country where the Longhorns were obtained for the epic western movie "North of 36." But ninety percent of the thousands of cattle inspected showed the hump of the Brahma breed which for years had been crossed with Texas cattle. Some Brahma blood among the collection of blood lines the Longhorn carried would make little difference; but they did not want it to spoil his conformation — such as he had. However, they finally selected ten excellent cows from the herd of Seth Brown, of Devers, whose family had lived in that part of Texas for four generations. And

from Frank Dew, in the same locality, they got two bulls and two steers; but he parted with one steer, "Old Broad," only on the promise his head and horns would be returned when the animal had served its purpose.

Hatton says the brands on these cattle were all very old and reminiscent of the history of Liberty and Chambers Counties. The "JH backward Seven C" was the oldest and was run by Seth Brown's grandfather more than 100 years ago. "Old Broad" wore the "J H 9" brand, then 70 years old.

All the cattle were brought to the stockyards at Fort Worth where they were held for fifteen days and dipped three times to eradicate the "Texas Fever" tick, and for tuberculosis tests to comply with sanitary requirements for shipping. Barnes and Hatton also picked up another steer here, making a total of twenty cows, four calves, three bulls and three steers. Repeated handling made the cattle vicious and difficult to put through the chutes — a good indication they were typical. Hundreds of people came to the stock yards to see them and five movie outfits took shots.

After clearance, the herd was shipped to Cache, Oklahoma and placed in the Wichita Forest. Swarms of people came to see them. Cowmen of the region agreed they were really fine specimens from which to progress to a planned herd of around 250 head. A system was effected for maintaining the life history and characteristics of each individual and for selection and retention of only the most typical animals. The herd thrived and in 1934 numbered 99 head. There was no doubt that with proper care it would, in a few years, reach planned numbers.

"Old Broad's" horns became diseased, dropped below his mouth so he grazed with great difficulty and he had to be destroyed. Frank Dew, to whom Barnes had promised to return the head, was written — but apparently did not want it in this condition.

The late Senator Connally, of Texas, in 1930, requested a picture of a Longhorn steer and Harry French, then supervisor, was in turn requested to obtain one. French, after a considerable interval, replied: "This is not so easy a job as might at first seem. An effort was made to secure a picture of the spotted steer out in the open, but without avail. He is too wild. We placed the animal in one of our corrals; but it is extremely dangerous to enter the enclosure with him. He is the worst fighting animal in a corral it

has been my experience to see. It is necessary to keep the fence between the steer and yourself. He will even try to climb the fence to get you. So you see it is difficult to get a good view." He expressed some doubts whether the pictures he sent would be suitable.

Administration of the Wichita National Forest and Game Preserve was transferred to the Biological Survey in 1935. Then the direct responsibility of the Forest Service for the Longhorns — but not its interest in them — ceased.[2]

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[1] J. Frank Dobie, *The Longhorns,* Little, Brown and Co., 1941.

[2] Material for this account was obtained from the files of the Forest Service. These include copies of the article, "The Search for the Longhorns," published in *The Producer* which is the National Livestock monthly, Denver, Colorado, November, 1927. Most of the story of the actual search is from this article. The files also include articles by Will C. Barnes, "Longhorns and Buffaloes," from *Breeder's Gazette,* November 30, 1916, and "The Texas Longhorn Preserved from Extinction," from the *Journal of Heredity,* American Genetic Association. According to the record, *The Saturday Evening Post,* October 15, 1927, contained an article by Barnes.

EPILOGUE

END OF AN ERA

THE shifting panorama of the range included many changes in Forest Service grazing personnel. Albert F. Potter resigned in July, 1920. With a clear understanding and comprehension of the western scene, he largely had formulated and given to the Forest Service the basic ideas and principles underlying the plans and policies of grazing administration. Although in 1910 he became associate chief of the Forest Service, he had continued to exercise a guiding hand in all grazing matters. He was one of the strong forces in establishing the national forest system. "Bert" Potter died at St. Helena Sanitarium, St. Helena, California, January 1, 1944.

Leon F. Kneipp was Potter's right hand up to 1910 and then succeeded him as chief of grazing. He left Washington and returned in 1920 as chief of the Branch of Lands where he had less direct contact with grazing matters — a "far piece" from Chicago's water front. Will C. Barnes became chief of grazing in 1915 and Jesse W. Nelson went from Denver to Washington, D. C., as inspector of grazing, to remain there until 1920 — a fairly long jump from a bronc rider in Buffalo Bill's Wild West Show. These three, as members of the Office of Grazing, were directly respon-

sible for the continuing development and application of plans and policies established by Potter. They were aided in the field by a changing group of regional chiefs of grazing. Among these was C. E. "Chris" Rachford, who succeeded Nelson as inspector of grazing in 1920. Rachford had cowboyed in the Modoc country of northern California in his youth and also engaged in the sheep business for a few years. He entered the Forest Service in 1905 and was the last of the old-time grazing men to take the long, long trail to Washington, D. C.

Recognition of the accomplishments of James T. Jardine and Arthur W. Sampson, the first two Forest Service range researchers, had brought offers from western educational institutions. Jardine left the Service in 1920; he was succeeded by W. Ridgely Chapline. Sampson resigned in 1922.

A group of young men, called grazing assistants, entered the Forest Service from 1910 to 1915. Many of them had been reared on ranches, large and small, and received technical training in western and mid-western forest schools. Several of the schools expanded their curricula to include special training in range management. These men manned range reconnaissance work and range investigations and studies. Their numbers increased as the work expanded. By 1920, they were moving into forest supervisor, assistant forest supervisor and subordinate positions in the regional offices of range management; and they manned Range Research when that office was created.

The first 25 years of national forest range management was fast waning when Will C. Barnes retired in 1928, to be succeeded by C. E. Rachford, the last of the chiefs of the old Branch of Grazing. This branch, with extensive reorganization in 1934, became the Division of Range Management in a new Branch of National Forest Management.

The Forest Service was a forceful element during an epochal period in the history of the West. It entered the western scene shortly following what has been called the greatest pastoral movement in the history of civilization. It was instrumental in reshaping use of the open range during the latter years of transition from the frontier to the modern era. These were the romantic years of range control and management to the old-timers who have taken the long trail to greener ranges, and to the ones still

living. Scientifically poor, practically and idealistically rich, they had, in a spirit of high adventure and great purpose, fashioned and placed in action a new and modern concept and system for use of the open range.

Grazing use, since the creation of the Forest Service, has been the most difficult activity to administer. There has never been a time in the experience of this writer when some segment of the livestock industry was not in a battle with the Forest Service over local or national issues. Nor has there ever been a time when the majority of national forest permittees were opposed to the grazing system on the national forests, which in fact they had helped to develop and establish. And when occasion demanded, they have defended that system.

Population increases and an exploding demand for outdoor recreation and other uses for the land are casting long shadows across forest ranges. The complexities of land management become greater and greater. A new generation of grazing men, better equipped scientifically, has accepted the gauntlet. The problems, though vastly different, may not be more difficult to resolve than those faced in the early days. And the big job on the remaining open range and the watersheds may still be close to the simplified assertion of John Kerr many years ago: "There's one thing certain; you can't raise cows without grass and water!" Grass in this lexican included all things a cow eats — grass, weeds and shrubby browse.

(Continued from front flap)

of the range lore or a student of history, you will find this an absorbing and lively chronology. If you are reading for pleasure and you enjoy stories of "When the West Was Wild" . . . . or if you are a student of forestry or the history of range management and you desire reference material, then this book is for you.

The early years of the Twentieth Century witnessed turbulent changes in the vast western ranges of the United States and co-operation was not always possible. The natural resistance of the pioneers to fight governmental "meddling" created some disconcerting moments for the people interested in the long-range goal of preservation. Herein is recorded the clash of a far-seeing and noble national purpose with the rugged spirit of the men who had "won the West."

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About the author

Paul H. Roberts received his Bachelors in Forestry from the University of Nebraska. He has been awarded the Superior Service Award and the Honorary Forester Emeritus Appointment, both from the Department of Agriculture. The author is a member of many societies connected with preservation and management of the national forests. He enjoys shooting ducks and pheasant . . . . . with a 35 mm. camera, and sauntering through the country in a trailer.

Mr. Roberts and his wife, Edith, have one son.

Comments about the book . . .

"Mr. Roberts has written the most realistic account of handling livestock, both cattle and sheep, on the open ranges during the early days of this century, that I have ever seen in print. This is primarily, of course, a factual account of the problems met and surmounted by the fledgling United States Forest Service in fulfilling the mission given to it through the actions of a great, and sensible President. It should find a place in Western libraries as a source book."

H. B. Embach, Secretary-Treasurer — Arizona Wool Growers Association

"This is history that needed to be written and Paul Roberts was exceptionally well equipped to write it. His long and notable career with the Forest Service gave him a first-hand knowledge of what occurred on the range, a personal acquaintance with many of the people about whom he wrote, and a deeply felt appreciation of our heritage of natural resources. In this volume he tells how one of the signal victories in the ceaseless struggle for their conservation was achieved."

E. H. Taylor, Former Associate Editor — *Country Gentlemen* and Curtis Pub. Co. Representative

"One of our most valuable federally owned natural resources is the Western range. This book is an accurate and fully documented first-hand account of sixty years of cooperation between the U.S. Forest Service and stockmen to conserve the range and manage it wisely. Paul Roberts shows that range abuse was due to ignorance, rather than design, and was an inescapable part of the profligate use of our original vast natural wealth. The story is told in an entertaining and human manner, and should be read by everyone interested in the development of the Far West."

Veldon F. Heald, Eminent Conservation Writer